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ABSTRACT

Two surveys developed profiles of seasonal agricultural workers and their working conditions in central California. In 1989, a random sample of 347 seasonal workers was interviewed. The sample was 30 percent female and 87 percent Mexican-born. Average age was 35 years and average educational attainment was 5.9 years. Most had parents, spouses, or children who worked in farm labor. Among needs and priorities, 28-56 percent mentioned employment, food, legalization, or housing; 22 percent mentioned further education; and 11 percent mentioned job training. Income and working conditions were not related to worker educational attainment, occupational experience, any other employee characteristic examined, or employer size. The 1990-91 survey interviewed 270 seasonal agricultural workers with a demographic profile similar to the earlier sample, and focused on three subgroups. Of 122 women interviewed, most earned less than men and had sole responsibility for domestic chores, child care arrangements. and dealing with schools and public agencies. The other two subgroups were at extremes of the wage scale. Mixtec Indians from Oaxaca (Mexico) spoke neither English nor Spanish and earned less than $4 per hour, while specialized melon workers earned $10-15 per hour. Contrary to the migrant-stream model of an undifferentiated "farm-labor pool," survey data suggest that individual farm workers and family groups specialize in crops and types of tasks, establish informal communication networks to maximize employment opportunities, and generally know where they will be working before they leave home. In volume 1, table 3 (p.5) and table 21 (p.19) and in volume 2, table 2 (p.4), each contain "education" as a variable. In volume 2, appendix A is the interview questionnaire (English version) used. (SV)

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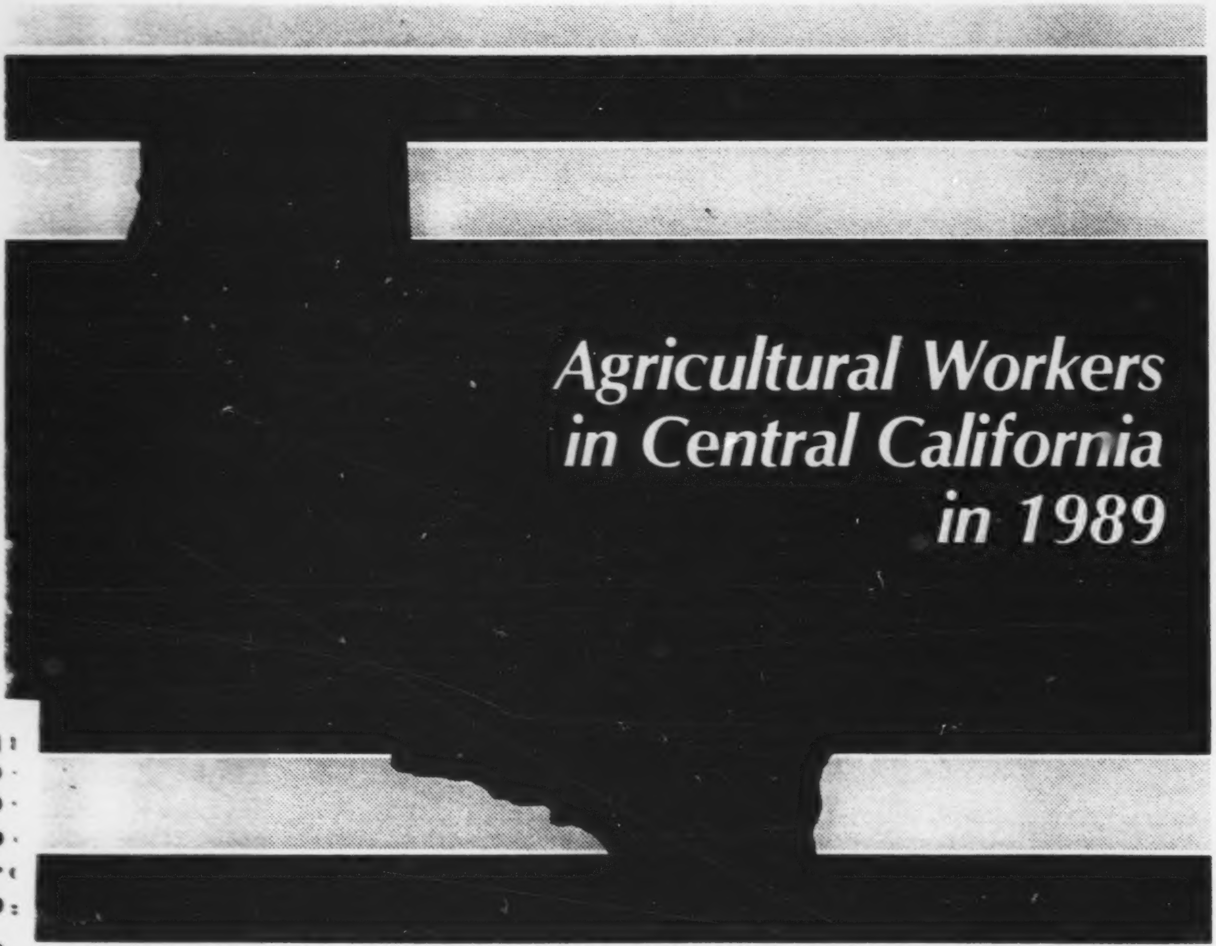

Agricultural Workers in Central California in 1989

RC 019332

CALIFORNIA AGRICULTURAL STUDIES 90-8

Employment Development Department

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AGRICULTURAL WORKERS IN CENTRAL CALIFORNIA IN 1989

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Preface

In the summer and early fall of 1989, a study of agricultural workers was conducted by agricultural economists and social scientists at California State University, Fresno for the California Employment Development Department (EDD). In November of that year, a preliminary report of the study's major findings was prepared for EDD and for release to various public audiences. This final report presents a condensed summary of the findings.

For this study, 347 persons were interviewed and included in the data analysis. Comparisons are made among persons who were employed in citrus, grapes, raisins, deciduous tree fruits, nuts, vegetables and melons, along with a sample of persons employed by registered farm labor contractors. The study sample was drawn from employers in Fresno, Kern, Madera, and Tulare Counties of Central California's San Joaquin Valley who made Unemployment Insurance (UI) contributions to the State of California in 1987, and who were included in State Employment Development Department data tapes.

Although the sample was drawn according to standard conventions governing the selection of stratified random samples and a statistically-representative population to be interviewed was produced, two possible sample biases may influence the degree to which the study data represent the entire *universe* of California farm labor. Employer-growers and farm labor contractors who did *not* make UI contributions in 1987 were not represented in the EDD data tapes and thus were not in the employer population from which the samples were drawn. If the employers who did not make UI contributions are in any way systematically different from those who did, it is possible that their exclusion from the sample pool had an influence of unknown scope and direction upon the final data.

In addition, approximately 10 percent of the employer-growers and farm labor contractors whose names were drawn in the sample chose not to participate in the study, or were no longer in business. In such cases, matched alternates were substituted using a list drawn at the same time that the primary sample was drawn. However, if employers who chose not to participate or farm labor contractors who were no longer in business are systematically different from those who were included in the final sample, it is also possible that their exclusion had an influence upon the findings.

At this time, it is not possible to estimate the influence that these employers might have had upon the study outcomes. Among those who were unrepresented or under-represented are employers who operate on a cash basis and do not contribute to UI; unregistered farm labor contractors; and small farm labor contractor operations that suffer a high year-to-year failure rate. It is important to bear these possible limitations in mind when generalizing from the data reported.

Executive Summary

In the summer of 1989, a study was conducted by agricultural economists and social science researchers at the California State University, Fresno for the California Employment Development Department (EDD). The purpose of the study was to obtain information from a representative sample of California agricultural workers which would allow economists and EDD to describe work, workers and working conditions. In addition, the study explored data related to the future outlook of employment in California agriculture.

Between June and October, 1989 a total of 361 persons employed in Central California were interviewed, resulting in 347 completed and unambiguous (i.e., usable) cases. Workers interviewed represented large, medium, and small employers in citrus, grapes, raisins, nuts, tree fruits, melons, and vegetables. The sample also included those employed by farm labor contractors. Samples were obtained from employers in Fresno, Kern, Madera, and Tulare Counties who made Unemployment Insurance (UI) contributions during tax year 1987 in California. Employers and farm labor contractors who were not present in the UI database were not included in the study. It is not currently possible to determine what impact the non-represented employers and farm labor contractors might have had upon the study outcomes, if any. In all other ways, the final study sample is statistically representative of the "universe" of employers contained in the UI data base. Below is a brief listing of the findings under five main categories: Agricultural Worker Profile, Work and Work Conditions, Wages and Compensation, Personal Economics, and Future Employment Outlook.

Agricultural Worker Profile

- About 3 in 10 workers in the entire sample are women; 50 percent of the work force in grapes, nuts, vegetables, and melons is female.
- Mean average age of workers is 34.9 years; 50 percent are 32 years of age or younger.
- Eighty-seven percent of the workers were born in Mexico; 6 percent were born in the United States; 7 percent were born outside of the United States and Mexico.
- Sixty percent of the workers are currently married; 30 percent are single, never married.
- Mean average years of schooling completed is 5.9; less than half of the study sample completed sixth grade (presumably in Mexico).
- According to self-reported and otherwise unconfirmed data, 33 percent of the sample are permanent or naturalized U.S. citizens; 59 percent are legally in the U.S. on a temporary basis; 7 percent are "undocumented" residents.
- One-half of those surveyed reported first coming to work in the U.S. ten or more years ago; slightly under 8 percent reported coming to the U.S. less than four years ago.
- The fathers of 80 percent of the respondents are farm laborers; the mothers of 22 percent are also employed in farm labor, while 74 percent are homemakers.

- Among married farm workers, over 40 percent have husbands or wives who are also employed as unskilled farm workers; one of every five with children reported that at least one son or daughter is currently employed in farm labor.

- One-third of those surveyed are employed in non-agricultural jobs during the year; of these, more than half leave the Central California area to work (in cities).

Work and Working Conditions

- On the average, farm workers reported working in at least two different crops during the 1989 summer season; persons employed in grapes showed the least crop diversity (1.5 crop types), while those working for labor contractors, and those working in vegetables and melons showed the most diversity (3.9 and 4.5 crop types, respectively).

- On the average, farm workers reported employment in at least two different types of tasks (e.g., pruning, irrigation, weeding) during the 1989 season; raisin workers showed the least task diversity (1.7 task types), while those in vegetables and melons showed the most diversity (3.2 task types).

- Grape and raisin workers tend to be the most specialized among farm workers, limiting their employment to those crops almost exclusively; melon and vegetable workers are the most diverse, working in the greatest variety of crops during the overall season and performing the widest variety of tasks.

- Sixty percent of those working in 1989 reported working for the same employer in 1988; citrus workers reported their highest return rate (77.8 percent), while raisin workers fell significantly below all others with a return rate of only 10.5 percent.

- The average length of employment for summer 1989 was 155 days (between 20 and 22 weeks); vegetable and melon workers and tree fruit workers reported the highest number of days (206 and 205, respectively), with raisin workers reporting the lowest number of days (59).

- Both in 1988 and 1989, most workers were employed by two different employers; raisin workers averaged three employers per season.

- Ninety-five percent of those surveyed reported that drinking water was available at the work site; 76.4 percent reported that wash water was available at the work site; 80.2 percent reported that toilet facilities were available at the work site.

Wages and Compensation

- During the harvest season, workers averaged 8.75 hours per day full-time; nut and raisin workers averaged the highest number of hours per day (9.4 and 9.25 hours, respectively).

- Eighty-four percent of those interviewed reported periods during the calendar year when they were unemployed.

- During periods of unemployment, financial support comes from two sources: unemployment insurance (50.3 percent) and savings (39.2 percent); those employed by farm labor contractors, however, report that savings (62.1 percent) and family (24.1 percent) provided needed support.

- Hourly compensation for harvesting varied from crop to crop, ranging from $4.50 an hour for tree fruit workers to $5.10 an hour for grape workers.

- Non-harvest tasks tended to be compensated at a lower average hourly rate, ranging from $4.53 an hour for irrigating to $4.82 an hour for tying.

- Thirty percent of those interviewed reported receiving no fringe benefits; 41 percent are provided with health insurance; 25.1 percent get family health insurance benefits.

Personal Economics

- Forty-nine percent of those interviewed reported that they must buy their own tools; raisin workers (84.2 percent) and grape workers (70.8 percent) must buy shears, knives, clippers and the like; citrus workers (7.9 percent) must buy their own gloves, but essentially no other tools.

- Most workers (78.2 percent) must rely upon others for daily rides to and from work; 63.8 percent pay for their rides at an average cost of $3 per day.

- Nearly all workers (85.2 percent) rent their homes, apartments, or mobile homes at an average cost of $208 per month; 9.3 percent reside in farm labor camp units; 4.7 percent reported that they reside in their cars or in the outdoors during the labor season.

- When asked to identify their greatest needs, 55.8 percent listed employment, 37.7 percent listed food, and 36.8 percent listed legislation (i.e., assistance meeting requirements and conditions of the new legalization process).

Future Employment Outlook

- When asked if they wished to continue doing farm work as their occupation, 88.1 percent responded affirmatively.

- When asked if they will still be doing farm work in three years, 62.5 percent said "yes" and 24.4 percent said "probably."

- When asked to identify the most serious problem faced by farm workers, 33 percent listed "pesticides;" 23 percent listed "low wages;" 8 percent listed "work hazards;" and 4 percent listed "abusive labor contractors."

Agricultural Workers in Central California in 1989

Part One
Research Design and Methodology

In the summer and early fall of 1989, a study of agricultural labor was conducted by agricultural economists and social science researchers at California State University, Fresno for the California Employment Development Department. The purpose of the study was to assemble information about seasonal farm labor by interviewing employees during the peaks of the labor seasons among the leading crops in Central California. Previous research conducted among Central California agricultural migrant populations suggested that most of the seasonal farm workers in this region are non-permanent residents who are available to participate in survey research only for the period of time that they are actually employed by the local growers and labor contractors.

With the cooperation of employers in Fresno, Kern, Madera, and Tulare Counties, 361 men and women were interviewed, resulting in 347 completed and unambiguous (i.e., usable) cases. Those interviewed represented employers in all of the major labor-intensive crops in this region, plus farm labor contractors. As anticipated from previous studies in the region, the vast majority of seasonally-employed farm workers in Central California speak Spanish as their first (or only) language. For this reason, bilingual interviewers were employed and trained to conduct the interviews in the participant's preferred language. Employer cooperation, trained bilingual interviewers, and familiarity with the agricultural labor community in Central California proved to be essential to the success of this study and to the quality and comprehensiveness of the resulting data.

The project followed standard survey research procedures, utilizing interviews of individual farm laborers as the primary source of data. An interview schedule was developed, reviewed by several employers, and pilot-tested among a small group of farm laborers prior to its use among the study sample. Bilingual (Spanish and English) interviewers were selected from among upper division and graduate students at California State University, Fresno and were trained in the interview process using the actual instrument and a pilot group of farm laborers.

Interviews averaged one hour in length and consisted of slightly over 600 individual items (i.e., questions). Responses were recorded on the instrument during each interview and consisted primarily of pre-coded, closed-ended items. Interviews were conducted either in the homes of participants or near the actual work sites after working hours. Participants were interviewed one at a time, allowing maximum opportunity to explain the questions and clarify answers.

Data from the interviews were entered into a computer data base and were subsequently examined using the *Statistical Package for the Social Sciences.*[1] All survey items were subjected to individual analysis. Selectively, items of particular interest and value were subjected to analyses of group-to-group comparisons, focusing on crop types, employer size and individual characteristics of respondents.

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[1] SPSS/PC+, Version 2.0, 1987

Descriptive and correlation statistics were used exclusively in all of the data analysis for this report: frequency tabulations, one-way analyses of variance, summaries of central tendencies (i.e., averages), cross tabulations and simple correlations. Information was summarized for the study sample as a whole and for each crop-type for purposes of comparison.

Sampling and Sample Characteristics

The study drew upon a scientifically-drawn sample of agricultural employers and farm labor contractors in the four-county study region. Lists of employers and farm labor contractors for calendar year 1987 were provided on a data tape by the Employment Development Department. Lists of employers were sorted by county and by crop type, resulting in the selection of the highest-producing, labor-intensive crops in the study region: citrus, table grapes, raisins, deciduous tree fruits, nuts, and vegetables and melons. Employers were rank-ordered from the largest to smallest on the basis of total wages paid in 1987. Totals of 1987 wages paid were calculated for each crop type and for labor contractors to determine the proportion of the sample total (N=350) that would be drawn from each employer group (see Table 1).

Table 1
Individual Sample Quotas by Employer Type
(Total Sample Target = 350)

Employer Type	Sample Quotas
Citrus	60
Deciduous Tree Fruits	45
Farm Labor Contractors	30
Grapes	100
Nuts	15
Raisins	50
Vegetables and Melons	50

After determining the sample quotas for each employer type by the method described above, employers were classified as large, medium, or small based upon total wages paid in 1987. Those falling in the upper one-third of their respective crop group were rated large, those in the middle one-third were rated medium, and those in the lowest one-third were rated small. Within each size group, employers were selected using random sampling techniques until the sample quotas were met (see Table 2). Large employers were assigned a quota of no fewer than fifteen employees; medium employers were assigned no fewer than ten and no more than fourteen employees; small employers were assigned five employees or 100 percent of their current labor force, which ever was smaller. A total of 361 interviews were conducted, from which any incomplete or ambiguous instruments were removed prior to data analysis.

Personal letters explaining the nature of the study and inviting them to participate were mailed to all of the employers who were identified in the sampling process. A copy of the interview schedule was enclosed with each letter. Employers who chose not to participate were replaced by "matched alternates" who were identified at the time that the sample was drawn. About 10 percent of the original sample chose not to participate and were replaced. "Lack of time" was the most frequently cited reason for not wishing to participate.

Table 2
Individual Sample by Employer Size

Employer Type by Size	Final Samples	
Citrus	Large	48
	Medium	10
	Small	03
Deciduous Tree Fruits	Large	23
	Medium	17
	Small	07
Farm Labor Contractors	Large	21
	Medium	02
	Small	06
Grapes	Large	86
	Medium	19
	Small	03
Nuts	Large	09
	Medium	00
	Small	00
Raisins	Large	40
	Medium	00
	Small	00
Vegetables & Melons	Large	33
	Medium	20
	Small	00
Total Individual Sample:		347

The field research coordinator met with each employer to answer questions about the study and to explain the sampling procedure that would be used to select individual farm workers for interviews. Farm workers' names were randomly sampled from current employee rosters, following the sample quota specifications described earlier. Alternates were also identified as a part of the process.

Individuals selected for participation were informed that the study was being conducted with the knowledge and approval of their employers. About half of the interviews were conducted in the homes of participants; the others were conducted at the work site, usually after working hours. In a few cases, employers allowed the interviews to be conducted during the regular work day, at the employer's expense.

Characteristics of the Individuals in the Sample

When all of the interview data were entered into the computer program, 361 individuals had been included. Fourteen cases were dropped from the original 361 due to a significant number of missing or ambiguous responses, resulting in a final sample of 347 persons.

The characteristics of the individuals surveyed represented a wide range of variance along most standard demographic measures: age, gender, marital status, level of education. The respondent group consisted of 73 percent males and 27 percent females. Individuals ranged in age from 13 years to 73 years, with a mean average age of 34.9 years. Over 87 percent of the respondents were born in Mexico where both parents were also born. About one-third of those interviewed reported that they are permanent legal residents of the United States, either by birth or through the naturalization process. Others are temporary legal residents with the exception of 6.6 percent who self-reported that they are "undocumented" residents.[2] Only about half of those surveyed have completed school beyond the sixth grade.

These descriptive statistics taken from the sample as a whole become far more interesting when comparing groups by crop type and other control variables. As presented above, however, they do provide a basis for comparison between this study and others that have been conducted in the Central California region among agricultural migrants and seasonal farm workers. Available census data and previous research conducted among seasonally-employed agricultural migrants suggest that the final individual sample is similar to other farm worker populations for whom demographic data are available.

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[2] Based on entirely self-reported information for which no further evidence or documentation was requested or provided in any form.

Part Two
A Personal Profile of the California Farm Laborer

Although this report focuses largely upon the work, working conditions, and socio-economic factors associated with seasonal farm labor, at the center of the study itself is the farm laborer as an individual. In this section of the report, we will examine several descriptive findings allowing us to characterize the "Central California farm laborer," his background, family, lifestyle, needs and problems.

If asked to describe the "average" farm worker who participated in this study, we would report that he is male, about 34 years old, a native citizen of Mexico, moderately healthy, married with children, and employed only during the peak production seasons of three or four crop types. His father is also a seasonal farm laborer who is quite likely working alongside him with at least two or three of his brothers and sisters. As he looks to the future, he sees himself continuing to do the same kind of work, worried that a serious accident or health problem would mean the end to the family's sole means of economic survival. He has the equivalent of a sixth-grade education, (educated in Mexico, however, and not in the United States), has virtually no other marketable skills outside of agriculture, and does not foresee any of these conditions changing much over the years ahead. With few minor exceptions, (i.e., raisin workers), this profile fits the "average" farm worker in all of the major crop types surveyed.

The information contained in most of the following tables is based upon arithmetic means calculated for the sample as a whole and for individual crop types. Normal caution should be taken when comparing mean averages, for they may be influenced by unusually high or low values. As a further caution, a mean is useful when attempting to summarize and compare data, but it does not permit one to determine the full range of values which can indicate population diversity.

Table 3
Personal Characteristics of Seasonal Farm Laborers by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Age (in years):	34.3	36.3	27.3	35.4	36.5	34.0	32.1	34.9
Gender:								
Males (%):	93.7	49.5	57.1	89.4	51.0	99.9	87.5	72.3
Females (%):	06.3	50.5	42.9	10.6	49.0	00.0	12.5	27.7
Marital Status:								
Single (%):	30.2	30.6	14.3	29.8	32.1	24.1	44.8	31.3
Married (%):	66.7	54.6	71.4	63.8	58.5	72.4	50.0	60.0
Common-Law (%):	00.0	03.7	14.3	04.3	00.0	00.0	02.6	02.3
Separated (%):	03.2	00.9	00.0	02.1	01.9	03.4	00.0	01.7
Divorced (%):	00.0	02.8	00.0	00.0	03.8	00.0	02.6	01.7
Widowed (%):	00.0	07.4	00.0	00.0	03.8	00.0	00.0	02.6
Education (in years):	03.5	06.7	11.4	05.4	05.6	05.0	08.6	05.9

Table 4
Residential Status by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Birthplace (%):								
Mexico:	98.4	76.2	28.6	99.9	94.2	99.9	92.1	89.1
United States:	01.6	06.7	42.9	00.0	05.8	00.0	02.6	04.4
Other:	00.0	17.1	28.6	00.0	00.0	00.0	05.3	06.5
US Residence (%):*								
Naturalized:	03.2	14.6	20.0	0.00	19.2	00.0	02.6	08.6
Permanent Legal:	12.7	38.8	40.0	17.0	30.8	06.9	12.8	24.0
Temporary Legal:	14.3	20.4	00.0	14.9	09.6	20.7	15.4	16.0
Temp 90/120 SAW:	68.3	23.3	20.0	61.7	32.7	62.1	30.8	42.6
Undocumented:	01.6	02.9	00.0	06.4	07.7	06.9	25.6	06.8
Other Status:	00.0	00.0	20.0	00.0	00.0	00.0	02.6	00.3
Number of Years Since First Came to the US:**	10.96	13.05	10.00	12.65	13.68	10.89	10.56	12.17
Months in U.S. Since Most Recent Arrival:	42.84	58.10	09.80	44.28	25.98	19.51	34.43	41.47

* Self-reported data, with no further verification or documentation.

** The median average for the sample was ten years, meaning that 50 percent of those interviewed first came to work in the United States ten or more years ago. Slightly under 8 percent said that they first came to the United States less than four years ago, which informally verifies the 6.8 percent self-reported "undocumented" figure.

Table 5
Leisure and Recreation by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Watch TV (% Yes):	81.0	49.5	71.4	59.6	37.3	69.0	68.6	59.0
Read (% Yes):	25.4	15.0	14.3	29.8	07.8	20.7	17.6	18.6
Relax (% Yes):	68.3	59.8	42.9	48.9	51.0	65.5	50.0	57.6
Movies (% Yes):	11.1	12.1	14.3	04.3	03.9	13.8	05.9	09.2
Visit Friends (% Yes):	31.7	29.9	57.1	38.3	17.6	48.3	08.8	29.6
Visit Parks (% Yes):	49.2	30.8	14.3	34.0	17.6	31.0	30.6	32.4

Table 6
Source of News by Crop Types

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Span. TV (% Yes):	20.5	72.9	14.3	83.0	88.2	96.6	94.4	83.2
Engl. TV (% Yes):	03.2	26.2	99.9	08.5	03.9	00.0	02.9	13.0
Span. Radio (% Yes):	63.5	53.3	00.0	68.1	45.1	65.5	50.0	55.6
Engl. Radio (% Yes):	00.0	06.5	14.3	06.4	09.8	00.0	05.9	05.3
Span. Paper (% Yes):	04.8	06.5	00.0	14.9	07.8	31.0	05.7	09.4
Engl. Paper (% Yes):	00.0	12.1	14.3	10.6	09.8	00.0	02.9	07.4
From Friends (% Yes):	23.8	22.4	14.3	55.3	27.5	34.5	31.4	29.8

Table 7
Health Status by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Current Health:								
% Excellent:	27.0	15.7	00.0	23.4	07.5	24.1	18.4	18.3
% Very Good:	20.6	21.3	57.1	29.8	28.3	31.0	23.7	25.2
% Good:	31.7	44.4	42.9	29.8	50.9	31.0	36.8	39.1
% Fair:	12.7	13.0	00.0	14.9	11.3	13.8	18.4	13.3
% Poor:	07.9	05.6	00.0	02.1	01.9	00.0	02.6	04.1
Smoke (% Yes):	23.8	21.3	42.9	48.9	25.0	34.5	44.7	30.2
Years Since Physical:	01.5	01.6	03.0	01.6	01.8	02.1	02.3	01.8
Injured in Last 5 Yrs (% Yes):	30.2	19.0	42.9	17.0	19.6	10.3	15.8	20.3
Med Attn Needed (%):	80.0	94.7	00.0	99.9	71.4	99.9	50.0	83.9
Hospitalized (%):	38.9	10.5	00.0	25.0	16.7	00.0	50.0	25.4
How Long Off Job:								
One Day:	20.0	23.1	—	28.6	50.0	00.0	00.0	22.2
To a Week:	26.2	30.8	—	14.2	25.0	99.9	20.0	26.7
To a Month:	13.3	15.4	—	14.3	00.0	00.0	00.0	11.1
Over Month:	40.0	30.8	—	42.9	25.0	00.0	80.0	40.0
Who Paid Med:								
Self:	05.6	10.5	—	12.5	60.0	00.0	20.0	15.8
Employer:	22.2	31.6	—	12.5	20.0	00.0	20.0	22.8
Employer Ins:	66.7	52.6	—	62.5	00.0	50.0	00.0	49.1
My Insur:	00.0	05.3	—	00.0	00.0	00.0	00.0	01.8
MediCal:	00.0	00.0	—	00.0	00.0	00.0	00.0	00.0
Free Clinic:	00.0	00.0	—	00.0	00.0	00.0	20.0	01.8
Union:	00.0	00.0	—	00.0	00.0	00.0	00.0	00.0
Don't know:	00.0	00.0	—	00.0	00.0	50.0	00.0	03.5

As indicated by the information contained in the above tables, there are several personal characteristics that appear to be shared in common among seasonal farm laborers, and others that vary substantially among persons who work in different types of agricultural crops. Later in this report, we will examine some of the factors that are believed to account for some of these differences, such as employer size, employee age, gender, and the unique work patterns among certain types of crops and labor tasks. For now, let us simply examine a few of the descriptive trends in the tables above.

Approximately 70 percent of those interviewed were men and 30 percent were women. The youngest in the sample was 13 years of age; the oldest was 75. One half of those interviewed were age 32 or younger.

Nearly 90 percent interviewed indicated that they were born in Mexico, as were their mothers and fathers. Half of those born in the United States said that one or both parents were born in Mexico. About one-fourth of the sample self-reported that they are permanent legal residents of the United States; 60 percent reported that they are temporary legal residents; and about 7 percent reported that they are "undocumented" residents.

Fewer than 30 percent of those interviewed have completed school beyond the sixth grade, with half of the sample reporting not having completed grade five. (NOTE: Given the age of the respondents and the number of years they they have been in the United States, simple arithmetic would suggest that what education most possess was obtained in Mexico.) Only 10 percent have completed high school, and fewer than 3 percent have attended any kind of post-secondary educational program.

Approximately half of the sample reported being in "excellent" or "very good" health. Twenty percent, however, reported being in only "fair" or in "poor" general health. One out of five interviewed have been injured on the job within the past five years, requiring medical attention in nearly every case and involving hospitalization in one-fourth of the cases. Over half of the injuries involving hospitalization caused the worker to be off work for a month or more.

Part Three
The Work of the Seasonal Farm Laborer

Most of the information gathered for this study deals with the work and the working conditions of the farm laborer. In this section, we will examine patterns of work activity among individuals and their family members, work histories, conditions of employment, and individual attitudes about staying in farm labor as one's primary occupation.

Table 8
Family Work Patterns and Work Histories by Type of Crop

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Father's Occupation:								
Farm Labor:	87.3	72.2	99.9	83.0	87.1	86.2	74.4	79.8
Unskilled Labor:	09.5	05.6	00.0	04.3	05.8	10.3	05.1	06.1
Skilled Labor:	01.6	09.3	00.0	06.4	05.7	03.4	02.6	05.5
White Collar:	00.0	00.9	00.0	00.0	00.0	00.0	02.6	00.6
Professional:	00.0	03.7	00.0	00.0	00.0	00.0	02.6	01.4
Other:	03.4	08.3	00.0	06.4	09.4	00.0	12.8	06.6
Mother's Occupation:								
Farm Labor:	12.7	27.8	14.3	23.4	22.6	17.2	25.6	22.3
Unskilled Labor:	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
Skilled Labor:	00.0	00.0	00.0	04.3	00.0	00.0	00.0	00.6
White Collar:	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
Professional:	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
Homemaker:	87.3	69.4	87.1	72.3	75.6	79.3	61.5	73.7
Spouse Farm Labor:*	06.3	41.7	48.9	02.3	15.1	00.0	17.1	19.9
Son Farm Labor:*	06.3	13.0	00.0	09.1	07.5	07.4	02.9	08.6
Daughter Farm Labor:*	00.0	08.3	00.0	04.5	07.5	03.7	02.9	05.0

* Percentages are based upon those who are married and have children, respectively

As indicated by the data contained in Table 8, farm labor is a prevalent occupation between and within generations of those surveyed. Only about one in five of those interviewed indicated that their mothers are or were farm laborers, but the majority of their mothers are not in the labor force. Rather, they are homemakers. Based upon their parents' occupational backgrounds, the vast majority of those interviewed are at least second-generation farm laborers.

Information reported in Table 9, indicates that about a third of the study sample work at least part of the time in jobs other than farm labor. About 40 percent have worked outside of the San Joaquin Valley in 1989. While about a third of the jobs are agriculture-related, (e.g., nursery work, packing houses), others are totally unrelated, such as those employed in the garment industry and restaurants. Work in packing houses accounts for the most "non-farm work" among all crop types, with mixed patterns evidenced in other categories of non-farm work. In spite of the seeming randomness of these employment characteristics, there is a pattern suggested by looking closely at the data in Table 9.

Table 9
Work Patterns by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Work Outside the San Joaquin % Yes:	42.9	37.0	50.0	34.0	40.4	34.5	52.6	39.9
Non-Farm Work % Yes:	27.0	24.1	14.3	40.0	34.0	24.1	56.8	31.6
Type Non-Farm Work:								
% Restaurant:	03.2	05.6	00.0	02.3	09.4	03.7	17.6	06.3
% Factory:	03.2	06.5	00.0	11.6	01.9	03.7	11.8	06.0
% Nursery:	01.6	00.0	00.0	00.0	05.7	00.0	05.9	01.8
% Pack House:	04.8	09.3	14.3	16.3	20.8	00.0	20.6	11.7
%Gardener:	01.6	01.9	00.0	02.3	00.0	03.7	05.9	02.1
%Construction:	03.2	01.9	00.0	00.0	01.9	11.1	20.6	04.5
%Domestic:	00.0	03.7	00.0	00.0	03.8	00.0	02.9	02.1
%Garment Indus:	04.8	00.0	14.3	00.0	07.5	00.0	00.0	02.4
Work for Same Farm Employer in 1988, % Yes:	77.8	71.3	57.1	59.6	62.3	48.3	10.5	60.6

Although the work patterns indicated above reflect a great deal of variety, it is interesting to note that in many cases those interviewed worked for the same employer in 1988 as in the summer of 1989 when this study was conducted. With a 60 percent year-to-year return rate, 1988 to 1989, for the sample on average, there is an implied pattern of repetition in annual work cycle suggested by these data. Raisin workers fell significantly below the rest of the sample in this regard, with a return rate of slightly over 10 percent.

Table 10
Employment Tenure by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Years in Farm Labor:	10.1	10.4	05.4	10.5	09.6	09.0	08.1	09.7
No. Employers 1988:	01.6	01.8	02.0	02.2	01.4	01.6	02.2	01.8
No. Employers 1989:	01.2	01.6	02.0	01.9	01.4	01.4	03.0	01.7
Days with Current Employer:	188	129	129	205	206	142	59	155

Comparisons between different crop groups in Table 10 tend to suggest that the average period of time in which the study participants have been employed in farm labor is about ten years. Virtually everyone reported working for more than one employer, although there is some variation from crop to crop in this regard. Those interviewed reported that they had been working for their current employer for a period of about 4.5 months (20 to 22 weeks) on the average, except for the raisin workers whose current tenure was less than two months on the average.

Table 11
Work Diversity by Crop Types

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
No. Crop Types:	02.2	01.5	02.3	03.7	04.5	03.9	02.5	02.7
No. Task Types:	02.5	03.1	03.0	02.4	03.2	02.3	01.7	02.7
Task Types:								
Harvesting:	44.4	69.4	40.0	58.7	54.7	55.2	27.3	55.2
Pruning:	58.7	40.7	20.0	21.7	07.5	24.1	09.1	31.5
Planting:	19.0	05.6	20.0	13.0	00.0	03.7	00.0	07.8
Thinning:	22.2	55.6	20.0	41.3	07.5	44.8	03.0	33.0
Irrigating:	19.0	02.8	20.0	17.4	11.3	00.0	03.0	09.3
Spraying:	14.3	00.9	00.0	06.5	03.8	00.0	00.0	04.5
Tying:	06.3	35.2	20.0	15.2	13.2	17.2	06.1	19.0
Diversity Index:[3]	05.5	04.2	05.8	09.8	22.00	10.4	06.1	08.8

In certain crop groups, there is a significant amount of crop and task specialization as evidenced by the data in Table 11. The highest percent category of "task type" is harvesting. Pruning and thinning also account for significant percentages of tasks performed in most crop groups. Of particular interest is the wide range of "Crop and Task Diversity" when comparing different crop groups. Although not a precise measure, this index gives us some relative indication of the level of job diversification typically found within a crop-specific group. Those who work in grapes would appear to be among the least diverse, while those in vegetables and melons perform the most diverse set of tasks and in several different crop types. Those employed by farm labor contractors fall squarely in the middle, most probably because they are employed through an agent who is providing labor as needed and for a wide variety of crop types.

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[3] Calculated (Total No. Crop Types X Total No. Task Types)

Part Four
Wages and Other Compensation

All interviewees were asked to indicate the basis and rate of compensation in all crops and all types of labor performed. *Are you paid by the hour, by the piece, or by some combination of the two? If by the piece, what is the unit of production used to calculate pay? And, whether by the hour or by the piece, what is the rate of compensation?*

All reported wage data are current for 1988-89 inasmuch as only those in the sample who reported working in specific crops and in the performance of certain tasks during those years were used for purposes of calculating wage and compensation averages. This was necessary in order to analyze hourly wage rates within the context of current wage laws and practices.

Representative crops from each category were selected and are shown in Figure 1.

Figure 1: Representative Crops for Wage Calculations

CITRUS:	lemons, oranges
GRAPES:	table grapes, wine grapes
NUTS:	almonds, walnut
RAISINS:	raisin grapes
TREE FRUIT:	peaches, nectarines, plums
MELONS:	cantaloupes, watermelons

The selections in Figure 1 were based upon identifying the actual crops that workers in each crop-type group were employed in at the time of the survey.

The wage and compensation data contained in Tables 12 and 13, were obtained from persons who were employed in harvesting tasks at the time that the interviews were conducted. Therefore, all of the hourly wage data in those tables are current for summer of 1989

Table 12
Basis of Compensation by Crop Types as Reported by Persons Primarily Employed In Those Crop Types

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.*	Raisins
% Paid Hourly:	43.6	62.6	99.9	94.3	99.9	----	09.4
% Paid Piece:	53.8	01.0	00.0	05.7	00.0	----	90.6
% Combination:	02.6	34.3	00.0	00.0	00.0	----	00.0

NOTE: the above data were obtained from persons who were currently employed in harvest tasks in each of the respective crop types, exclusive of those working for labor contractors.

* All data contained in Table 12 are based upon crop-specific tasks. Those working for labor contractors are employed in many crop types and cannot, therefore, be summarized in this fashion as a separate and distinct group. They are included in the averages shown for each crop, above.

Table 13
Compensation by Hour and Piece Reported by Those Employed Harvesting In each Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.*	Raisins
Hourly:	$4.89	$5.10	$4.92	$4.50	$4.95	$4.56	$5.09
Hourly + Piece:							
Bin	$9.57	—	—	$4.55	—	—	—
Box	$9.99	$4.90+.25	—	—	—	—	—
Row	—	—	—	—	—	—	—
Tray	—	—	—	—	—	—	$4.42+.16
Tree	$6.43	—	—	—	—	—	—

NOTE: the above data are calculated mean averages based upon responses by persons who were employed primarily in the respective crop type at the time of the survey.

* Hourly wage data for those working for labor contractors are not crop-specific, but rather are average wages paid for an unknown combination of crop types.

Data were gathered on other types of farm labor tasks, as well, and are reported in Tables 14 and 15. The wage and compensation data for Tables 14 and 15 include information provided both by those who were employed in those crop types at the time of the interview and by workers who were employed in those crop types at some other time in 1988 or 1989 (but not at the time of the interviews). Only those who reported earning farm wages in 1988 or 1989 were included in the data analysis for Tables 14 and 15, however.

Table 14
Basis of Compensation for Types of Tasks by Crop Types

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Irrigation:								
% Hourly:	99.9	99.9	99.9	99.9	92.7	99.9	85.7	93.7
% Piece:	00.0	00.0	00.0	00.0	07.3	00.0	14.3	06.3
Spraying:								
% Hourly:	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Cultivating:								
% Hourly:	75.0	75.0	—	99.9	99.9	99.9	—	85.5
% Piece:	25.0	25.0	—	00.0	00.0	00.0	—	14.5
Pruning:								
% Hourly:	82.4	91.1	99.9	84.2	99.9	81.8	20.0	85.2
% Piece:	17.6	08.9	00.0	15.8	00.0	18.2	80.0	14.8
Thinning:								
% Hourly:	87.6	97.2	—	99.9	99.9	92.9	99.9	96.2
% Piece:	12.4	02.8	—	00.0	00.0	07.1	00.0	03.8

(Table continued next page)

Table 14 (Continued)
Basis of Compensation for Types of Tasks by Crop Types

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Planting:								
% Hourly:	99.9	99.9	—	99.9	99.9	99.9	99.9	99.9
Weeding:								
% Hourly:	99.9	60.0	—	99.9	99.9	99.9	850	91.7
%Piece:	00.0	40.0	—	00.0	00.0	00.0	14.3	08.3
Tying:								
% Hourly:	83.3	87.2	—	80.0	99.9	99.9	66.7	86.3
% Piece:	16.7	12.8	—	20.0	00.0	00.0	33.3	13.7

NOTE: Percentages shown as 99.9 percent are effectively 100 percent, rounded during computation by the program.

As evidenced in the above table, the vast majority of non-harvest farm labor tasks are compensated on the basis of an hourly wage. Piece-work may be paid on non-harvest tasks such as pruning and tying where individual plants or trees serve as the basis for pay. This is particularly true for those working in grapes, citrus, and tree fruits.

Table 15
Hourly Compensation for Non-Harvest, Farm Labor Tasks by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Irrigating:	$5.05	$4.51	$4.75	$4.50	$5.19	$4.50	$4.51	$4.53
Cultivating:	$4.88	$4.58	$4.65	$4.50	$4.50	—	$5.00	$4.64
Pruning:	$4.81	$5.04	$4.88	$4.60	$4.51	$4.53	$5.08	$4.78
Thinning:	$4.60	$5.02	$4.90	$4.63	$4.50	—	$4.58	$4.79
Planting:	$4.78	$5.05	—	$4.50	—	—	$5.12	$4.77
Weeding:	$4.58	$4.58	—	$4.50	$4.50	—	—	$4.55
Tying:	$4.77	$4.91	—	$4.45	$4.65	—	$4.91	$4.82

NOTE: the above data are calculated mean averages based upon responses by persons who were employed primarily in the respective crop type at the time of the survey.

Although there is variation between task types and among crop types, in nearly all cases the hourly wage earned in 1988 falls between $4.50 and $5.00, with those working through a labor contractor consistently receiving less than those who are directly employed by the farmer. It is important to bear in mind the fact that these are non-harvest tasks, suggesting that those who are performing them are working either before or after the harvest season. Relatively few of those working for labor contractors during the harvest season reported working in non-harvest tasks.

Table 16 reveals that the mean average number of months worked full-time in agricultural labor in 1988 is 4.63 months for the sample as a whole. Those working for labor contractors reported the lowest 1988 period of full-time employment (3.24 months), while those employed in nuts reported the highest (7.86 months).

Table 16
Employment and Unemployment Characteristics by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
How Find Job:								
On My Own:	34.9	33.3	00.0	46.8	18.9	51.7	32.4	34.0
Recalled:	00.0	01.9	00.0	00.0	01.9	03.4	02.7	01.5
Employer:	06.3	03.7	00.0	00.0	03.8	00.0	05.4	03.5
Contractor:	00.0	03.7	00.0	00.0	05.7	06.9	05.4	03.2
Empl Service:	00.0	00.0	28.6	00.0	03.8	00.0	00.0	01.2
Welfare:	00.0	01.9	14.3	02.1	00.0	00.0	05.4	03.2
Relative:	57.1	51.9	57.1	48.9	62.3	37.9	48.6	52.6
Union:	00.0	00.9	00.0	02.1	00.0	00.0	00.0	00.6
Other:	01.6	02.6	00.0	00.0	03.8	00.0	00.0	01.7
Mos. Fulltime 1988:	4.97	4.49	7.86	4.14	5.05	3.24	4.97	4.63
Hrs/Day Fulltime:	8.58	8.44	9.42	8.73	9.15	8.82	9.25	8.75
Periods When Unemployed % Yes:	66.7	86.9	85.7	95.7	86.8	86.2	84.2	84.0
Reasons No Work:*								
Season Ends:	57.1	89.7	66.7	87.2	86.8	86.2	93.9	82.5
Weather:	58.7	25.2	14.3	21.3	07.5	20.7	18.8	26.9
No Work Open:	27.6	08.4	00.0	19.1	09.4	27.6	09.4	13.9
Insufficient Pay:	00.0	02.8	00.0	02.1	00.0	00.0	03.1	01.5
Illness:	09.5	10.3	00.0	10.6	05.7	06.9	03.1	08.3
Means of Support When Unemployed:*								
Unemploy. Insur.:	22.2	74.8	85.7	51.1	64.2	17.2	25.0	50.3
Public Assistance:	00.0	00.0	00.0	02.1	00.0	00.0	00.0	00.3
Food Stamps:	00.0	03.7	00.0	00.0	03.8	00.0	00.0	01.8
AFDC Welfare:	00.0	00.9	00.0	00.0	01.9	00.0	00.0	00.6
Private Charity:	00.0	00.0	00.0	00.0	00.0	00.0	08.3	00.9
Church Aid:	00.0	00.0	00.0	00.0	00.0	03.4	02.8	00.6
Family Help:	03.2	07.5	00.0	10.6	07.5	24.1	05.6	08.2
Savings:	46.0	27.1	42.9	40.4	39.6	62.1	41.7	39.2

* Column percentages do not necessarily add to 100 percent. These are not mutually-exclusive response categories, meaning that individuals may have answered "yes" to more than one category.

The role of the family seems key to many employed in farm labor, from locating a job to providing family assistance during periods of unemployment. This is consistent with an earlier finding that many family members work together for the same employer during the production season. Families apparently set aside as much income as possible for jobless periods, for about half of those interviewed indicated that they lived on savings rather than rely upon any form of public assistance during those times.

Insufficient work, rather than insufficient pay or other poor working conditions, is the most common reason given for ending a job. More information about actual working conditions is shown in Table 17.

Table 17
Working Conditions by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Benefits Received:								
None:	07.9	14.8	99.9	44.7	37.7	34.5	62.2	29.7
Insurance, Self:	74.6	35.2	00.0	27.7	26.4	58.6	32.4	41.0
Insurance, Family:	14.3	47.2	00.0	21.3	30.2	00.0	00.0	25.1
Life Insurance:	07.9	03.8	00.0	08.5	18.9	06.9	00.0	07.3
Paid Vacations:	11.1	09.4	00.0	06.4	03.8	00.0	00.0	06.5
Year-end Bonus:	12.7	06.6	00.0	04.3	28.3	00.0	00.0	09.4
Profit-Sharing:	09.5	03.8	00.0	00.0	00.0	00.0	00.0	02.9
Free Housing:	00.0	00.0	00.0	02.1	03.8	00.0	00.0	00.9
Free Vehicle:	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
Drinking Water on Job Site % Yes:	88.9	99.9	85.7	95.7	86.8	96.6	97.3	94.5
Wash Water on Job Site % Yes:	60.3	91.7	99.9	70.2	67.9	62.1	86.5	76.4
Toilet Facilities on Job Site % Yes:	63.5	97.2	99.9	63.8	84.9	62.1	83.8	80.2
Must Buy Own Tools:	07.9	70.8	28.6	46.8	37.7	41.4	84.2	49.0
Buckets % Yes:	00.0	11.1	00.0	19.1	05.7	00.0	83.3	16.7
Sacks % Yes:	01.6	01.9	00.0	06.4	00.0	10.3	00.0	02.6
Shears % Yes:	01.6	32.4	00.0	29.8	00.0	27.6	02.9	17.3
Gloves % Yes:	04.8	34.9	14.3	19.1	32.1	24.1	17.6	23.6
Ladder % Yes:	00.0	00.9	00.0	06.4	03.8	06.9	02.9	02.7
Knives % Yes:	01.6	10.2	00.0	23.4	01.9	03.4	86.1	16.3
Clippers % Yes:	00.0	48.1	00.0	06.4	01.9	24.1	02.9	18.7
Mask % Yes:	00.0	00.9	00.0	02.1	00.0	00.0	00.0	00.6
Boots % Yes:	01.6	13.0	14.3	08.5	09.4	06.9	00.0	07.9

NOTE: Percentages shown as 99.9 percent are effectively 100 percent, rounded during computation by the program.

Long days, short annual employment periods, minimal pay by conventional labor standards, few benefits, and out-of-pocket job-related expenses seem to characterize the "seasonal farm laborer" as defined by the data in this study. In the next section, some of the socio-economics that are associated with the life of the farm laborer and his or her family are examined.

Part Five
The Socio-Economics of the Farm Laborer Family

This study included a number of items concerned with the overall quality of life of the farm laborer and his or her family. The interviews included questions about the subject's home, living conditions, consumer habits, personal needs, and routine expenses associated with daily living. Together, these factors will allow us to begin to develop a socio-economic profile of the farm laborer.

Table 18
Housing Characteristics by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Type of Home:								
Mobile Home:	07.9	01.9	00.0	10.6	34.0	00.0	10.5	09.9
Single Family:	61.9	50.9	99.9	61.7	37.7	27.6	63.2	52.8
Duplex/Triplex:	00.0	01.9	00.0	00.0	01.9	00.0	00.0	00.9
Apartment:	14.3	29.2	00.0	12.8	15.1	20.7	18.4	19.5
Camp Unit:	04.8	04.7	00.0	06.4	09.4	51.7	02.6	09.3
Public Housing:	00.0	07.5	00.0	02.1	00.0	00.0	02.6	02.9
Other:*	11.1	03.8	00.0	06.4	01.9	00.0	02.6	04.7
Buying Home % Yes:	09.7	15.2	50.0	11.6	10.0	06.9	14.3	12.7
Renting Home % Yes:	87.3	83.0	40.0	88.9	90.2	86.2	81.6	85.2
Monthly Mortgage:	233.	304.	354.	167.	314.	040.	356.	272.
Monthly Rent:	173.	248.	314.	177.	171.	199.	252.	208.
Months Lived in Current Home:	45.8	50.6	38.0	28.3	24.7	24.6	19.1	36.8
No. Moves in 5 Yrs:	3.76	3.47	7.14	2.93	4.24	2.86	3.67	3.61

* According to interviewers' notes, most of the persons who are classified as having "other" types of residences were without housing. They reported that they were sleeping in their cars or, in some cases, on the ground in the open. Although there were relatively few such persons, (about 17 in the total sample), this housing status also explains findings reported in later tables regarding lack of running water in places of residence.

Approximately half of the study sample reported living in single-family dwellings, mostly rentals. Twenty percent live in apartments. Slightly over half of the people working for labor contractors live in labor camp quarters, but very few persons in other crop groups so reported. Mortgage and monthly rent payments shown in Table 18 are approximately one-third of the average price for housing in Fresno County at this time. The information that is summarized in Table 19 further illuminates the housing issue by providing a breakdown of standard features and conveniences.

Table 19
Features of Residences by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Does Home Contain:								
Piped Water:	98.4	99.1	99.9	97.9	99.9	99.9	97.4	98.8
Flush Toilet:	98.4	99.1	99.9	95.7	99.9	99.9	97.4	98.5
Tub or Shower:	96.8	98.1	99.9	93.6	99.9	99.9	97.4	97.7
Central Air/Heat:	19.0	24.1	14.3	23.4	35.8	37.9	47.4	28.4
Wall Heater:	44.4	58.3	57.1	29.8	45.3	24.1	23.7	43.2
Free-Stand Heater:	06.3	09.3	28.6	08.5	03.8	10.3	07.9	08.1
Portable Heater:	04.8	02.8	00.0	14.9	18.9	03.4	07.9	07.8
Evap. Cooler:	66.7	60.2	71.4	63.8	73.6	34.5	44.7	60.3
Portable Fan:	17.5	11.1	00.0	12.8	07.5	24.1	05.3	12.2
Telephone:	57.1	68.5	85.7	61.7	54.7	10.3	36.8	55.4
Monthly Utility Bill:	$90	$68	$70	$70	$128	$67	$85	$98

Group comparisons indicate very few differences between groups in Table 19, meaning that from a statistical standpoint all of the groups look about the same in terms of selected heating, cooling and plumbing facilities in their residences. Those reporting a lack of piped water, flush toilets, and tubs or showers are those who reported having "other" types of residences in the previous table (see footnote Table 18).

Table 20
Personal Transportation by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Own Auto % Yes:	33.3	52.8	57.1	43.2	46.0	06.9	36.8	41.2
Drivers Lic. % Yes:	34.9	53.3	71.4	42.6	43.4	06.9	18.4	39.5
How Get to Work:								
Friend or Family:	44.6	72.1	42.5	67.7	22.2	00.0	73.3	55.6
Crew Boss/Emply:	32.2	04.4	22.5	29.1	29.6	88.1	20.0	21.0
Labor Bus:	00.0	00.0	00.0	00.0	00.0	11.8	03.3	01.6
Pay For Ride % Yes:	77.6	49.2	00.0	67.6	44.1	81.5	79.3	63.8
Ride Cost per Day:	3.11	2.89	—	3.00	2.41	3.20	3.15	2.99

More than half of those surveyed do not own a personal vehicle, and thus must rely upon friends, family, or others for a ride to work. On the average, it costs each person about $3 a day for a ride to and from the work site. The matter of farm labor transportation attracts a great deal of public attention each year in Central California, usually inspired by news releases concerning the illegal (i.e., improperly licensed) transporting of excess passengers or tragic accidents involving passengers who pay for rides in vehicles that are not legally "for hire." This is a difficult problem to resolve, especially given the high dependence upon others for transportation to and from work.

Table 21
Needs and Priorities as Self Reported Among Farm Workers by Crop Type

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Farmworkers Need:								
Employment:	54.0	57.4	71.4	57.8	47.2	65.5	53.3	55.8
Food:	41.3	47.2	57.1	27.7	24.5	51.9	18.8	37.7
Training:	09.5	13.8	00.0	04.3	11.3	12.0	14.7	10.7
Education:	25.4	21.3	00.0	23.4	18.9	24.0	20.0	21.6
Transportation:	36.5	18.5	57.1	14.9	11.3	32.0	13.9	21.5
Housing:	36.5	27.8	42.9	23.4	26.4	25.9	19.4	27.9
Legalization:	38.1	17.6	00.0	44.7	41.5	55.6	68.6	36.8

Given the descriptive data contained in previous tables in this report, it should come as no surprise that the areas of need identified in Table 21 were of significance to many who were surveyed. The meaning of these findings is not as easily ascertained. Interviewers' notes from open-ended questions suggest that employment needs are indicators of a generally low level of income which results in the need for food (i.e., most of my income is spent on feeding my family), housing (the rest of my income is spent on housing), and transportation (I cannot afford a car and am therefore totally dependent upon other means of getting to work and doing my weekly shopping).

The need for training is implicitly related to the need for better jobs, but education is an interesting item that is perhaps not only a statement of personal need but of what is needed by the next generation. Legalization needs refer to the need for assistance in working through the complexities of the legalization process and documentation of that process.

Part Six
Employment Projections

Much of this current report is limited to basic descriptive analyses of the large data base that was produced by this study. As evident throughout the report, little effort has been made to offer explanations or interpretations of the data as provided by those interviewed. Yet, the data, even in their most objective form, are suggestive of a number of interesting policy questions and subjects for future study.

For example, many hypothesize that with the recent immigration laws affecting Mexican nationals who come to the United States to work in farm labor, a significant number of those who were formerly "undocumented" residents are taking steps toward permanent legal resident status. In the seasonal farm labor family of yesterday, as each generation reached an age where it was possible to come to the United States and go to work, that is precisely what the children did. But what will be the short and longer-term effects of achieving permanent legal residential status? Will we see increased participation in education, training and consumerism? Will the children of those who were interviewed as a part of this study grow up to become seasonal farm laborers in the same fashion as their fathers and grandfathers before them? Or, will the cycle be changed?

Earlier studies of farm labor have suggested that as many as 25 percent of each year's seasonal labor force are first-time employed in the United States. Our self-reported data for 1989, however, suggest that this number may be shrinking (i.e., less than 8 percent reported coming to the United States for the first time within the past three years). To the extent that these self-reported data are representative of the overall farm labor force in Central California, there may be a reduction in the size of the farm labor pool which could have serious consequences. Will farm laborers who establish legal residence continue to provide the labor base that is needed to grow and harvest farm products? On this question, the experts do not agree.

Table 22
Perceptions of Future Employment among California Farm Laborers in 1989

VARIABLES	Citrus	Grapes	Nuts	Tree Fruits	Vegs Melons	Labor Contr.	Raisins	TOTAL SAMPLE
Do You Want to Continue Doing Farm Work, % Yes:	99.9	85.2	99.9	87.2	84.9	86.2	81.1	88.1
Will You Still Be Doing Farm Work Three Years from Now:								
Yes:	73.0	60.2	16.7	66.0	49.1	51.7	81.6	62.5
Probably:	22.2	25.0	66.7	17.0	34.0	24.1	15.8	24.4
Probably Not:	00.0	00.0	00.0	06.4	01.9	03.4	00.0	01.5
No:	00.0	05.6	00.0	02.1	07.5	03.4	02.6	03.8
Don't Know:	04.8	09.3	16.7	08.5	07.5	17.2	00.0	07.8

Those who were interviewed in this study do not foresee much change in this regard. When asked about their future plans, the vast majority of those interviewed said that they will probably still be doing the same kind of work three years from now (see Table 22). And in spite of the difficulties that are so obviously associated with life as a seasonal farm labor family, nearly 90 percent indicated that they wish to continue doing farmwork as opposed to any other type of work for which they are now qualified (i.e., unskilled general labor). An indication that one "wishes" or "wants" to stay in agricultural employment may reflect a sense of reality among farmworkers in terms of skills and contacts as opposed to occupational preferences.

To answer the question of attrition and retention in the current farm labor force, researchers need to conduct longitudinal studies. The data reported here are simply expressions of intention as currently held by those who are still somewhat uncertain about legalization, short- and longer-term affects of legalization, and similar matters. But, we might wonder if the perceptions held regarding one's own future are also those held regarding their children? If stabilization in immigration is approached or achieved, what are likely to be the effects upon the next generation, the farm labor pool, and ultimately the farm labor and food production industry as a whole?

Part Seven
Predicting the Future of Central California's Agricultural Labor Pool

From the perspective of California agriculture, growers, and the California Employment Development Department , the primary purpose of a study such as this is to determine the viability of the California agricultural labor pool, particularly as the availability of workers and the direct costs associated with food and fiber production might be influenced by such factors as changes in immigration laws, complexities in labor management and reporting, and changes in labor pool demographics within and between generations.

A thorough investigation of the relationship between these factors and changes or conditions within the California agricultural labor pool would require a research effort quite different from that reported here. It would include questions not asked of this particular sample. It would require employer information not available to this study. It would be longitudinal in nature, measuring actual differences that occur over time. And, it would require researchers to seek out, identify, and include unregistered labor contractors, cash-only employers, and a fully-representative sample of undocumented or illegal farm workers (see methodological discussion in the Preface).

While there are many important questions yet to be answered through additional research, the data generated by this current study offer valuable insight into the possible relevance of a number of independent or intervening variables. For example, by comparing those who reported that they will probably still be doing farm labor work three years from now to those who said that they probably would not, it might be possible to isolate one or more factors which distinguish the two groups from each other. On the other hand, if explanations are not found within the existing data, researchers will know not to rely upon these same measures or variables in future efforts. In an exploratory study such as this, is it as important to eliminate fruitless directions of inquiry as it is to identify viable hypotheses and plausible explanations.

Relationships Explored in this Report

This report is primarily descriptive in nature and includes summaries of sample and group averages by crop type. In this section we will expand the descriptive treatment of the data by testing for any correlations between selected independent and dependent variables in an effort to identify employer and employee characteristics that may be associated with differences found in the data. Additionally, wage and compensation data will be analyzed to examine the variations that occur within crop types and across the sample as a whole.

Using SPSS (Statistical Package for the Social Sciences) procedures, correlations (i.e., measures of association between two variables) were calculated according to the types of variables tested and are so-noted in all of the following data tables. Pearson's r, for example, is used to test the relationship between interval scale dependent and independent variables such as age (in years) and earnings (in dollars). Gamma is used to test the relationship between ordinal and nominal scale variables such as employer size (large, medium, and small) and employee benefits (yes and no).

For those with a limited background in statistics, a brief explanation may prove useful. In general, associations between two variables range from 0.00 (no associative relationship) to 1.00 (highest association). The relationship may be positive (as one increases, the other increases) or negative (as one increases, the other decreases). Although a correlation of 0.00 or 1.00 is easy to interpret, those falling between these two extremes are more difficult to define. A correlation is an indicator of the extent to which two variables co-vary. As the strength of the correlation increases (i.e., approaches 1.00), we are increasingly confident that what we are seeing in the data is not random. As the strength of the correlation decreases (i.e., approaches 0.00), we interpret the apparent co-variance as simply a random event. There is no systematic relationship between the two variables, and one cannot predict the value of one from knowing the value of the other.

Why is this important? In the following discussion, tests of association will show that there is very little co-variance between employee characteristics and the work that they do, the pay they receive, and whether they plan to continue doing this work in the future. We will also see that there is only the slightest co-variation between certain employer characteristics and these same dependent variables. We know from other examples, however, that employee characteristics often influence the kind of work that people do, how much they earn, and whether they plan to keep their jobs or seek other types of employment. We also know from other examples that employer characteristics influence work, workers, and worker tenure. So why would we not find these relationships in the farm labor data?

First and foremost, there is very little co-variation because there is very little variability in most of the conditions that were measured in this study; e.g., level of education and benefits received. In addition, when significant differences were found in the data, most of the variance was linked to the particular type of crop. So, while age and gender have little to do with one's hourly wage in the farm labor industry, the hourly earnings of those working in one type of crop were consistently different from those working in others.

Variations in Work and Pay Associated with Employee Characteristics

In most industries, there are clear patterns of association between employee characteristics and employment conditions. Education, training, experience and tenure, for example, are almost always associated with one's pay and job classification. Persons with greater skills and knowledge, more on-the-job experience, and seniority within a given pay classification often receive higher pay, more benefits, greater employment security, and even better work assignments than their junior counterparts.

When these and other employee characteristics were examined in the farm labor database, however, no significant relationship was found between them and any of the employment or compensation variables included in the study. Figure 2 lists the employee characteristics that were examined (i.e., the independent variables) and the employment (i.e., dependent) variables.

Figure 2
Independent and Dependent Variables Used to Test for Possible Associations between Employee Characteristics and Employment Conditions of Farm Laborers

Employee Characteristics	Employment Conditions
Age (in years)	No. Employers in 1988
Sex	No. Crops Worked 1988
Residency Status	No. Task Types in 1988
Country of Birth	Hourly Pay
Education (in years)	Benefits (Yes/No)
Years in U.S.	Types of Benefits
Current Health	Same Employer 1988 (Yes/No)
Years in Farm Labor	Mos. Fulltime 1988

When correlations were calculated between each of the independent variables in Figure 2, above, and the dependent variables, no statistically significant associations were produced. Slight positive correlations were found between the total number of months employed in 1988 and residency status. Specifically, those in the study sample who reported being permanent legal residents of the United States reported working more months fulltime in 1988 than those who were temporary residents. The correlation was weak, however, (0.23) and was not statistically significant (i.e., less than 5 percent of the variance found in the data may be attributed to the independent variable).

What meaning and significance can be given to these findings? Stated most simply, in the farm labor industry, individual worker characteristics seem to have little influence over the work that a person does, the pay he or she receives, or the number of months that he or she is employed in a given year. We saw earlier in this report that there are many differences when comparing workers in different crop types. But when individual employee characteristics are correlated with the same variables, there seems to be no independent differentiation.

There may be several explanations for this lack of differentiation, but the data that are available to this study do not lend themselves to testing these possibilities. For example, we cannot determine whether as workers grow older they tend to leave the agricultural labor pool to seek different, presumably better and easier, employment. We cannot determine whether those who are able to complete additional schooling in the United States are able to secure other types of employment and perhaps even move from the rural farm areas to cities offering better job opportunities. And we cannot determine what effects "legalization" might have upon farm labor families and especially upon the young children who will have increased opportunities to complete their educations and pursue skilled employment opportunities of various kinds. While longitudinal changes in the agricultural labor population might impact the labor pool and eventually the work and working conditions of those who remain in that pool, those in the present study sample who are older, who have slightly more education, who are legal, permanent residents of the United States do not look statistically different from the others.

Variations in Work and Pay Associated with Employer Characteristics

If one were to speculate about the possible differences between working for a small grower and a large, corporate farming operation, it would seem reasonable to assume that the large employer might be better able to offer work and compensation advantages such as higher hourly pay, longer employment seasons, greater year-to-year employment stability. On the other hand, one might reason that to be competitive in the existing labor pool and to attract needed workers, the small grower would be forced to pay higher wage incentives, offer fringe benefits, provide his workers with year-to-year "employment assurances," or even employ a greater number of his harvest crew to do pre- and post-harvest tasks as additional incentive. One might even argue that both the large and the small employer would meet these conditions, leaving the middle-sized employer significantly disadvantaged in meeting his labor needs.

When we tested the relationship between employer size and the list of dependent variables shown in Figure 2, however, we found no significant differences. A slightly higher number of persons working for large employers reported receiving certain kinds of benefits (i.e., life insurance policies and paid vacations), but this was reversed in the case of those who reported receiving year-end bonuses and free housing. There were no clear differences in number of months worked, hourly pay, or even types of labor tasks performed.

It is important to point out that the study sample reported working for 2.9 employers per season, on average. Persons who happened to be working for a small grower at the time of the interview did not work for small growers exclusively. Thus, the data reported for the dependent variables are seasonal summaries and are not necessarily associated with one's current employer. Hourly wage data were specific to one's current employer; all other questions referred to conditions and benefits received at any time during the 1989 season.

Once again, we are unable to show a statistically significant association between the independent variable (i.e., employer size) and any of the dependent variables. The differences between crop types were much greater than those found when comparing employers of different sizes.

Supplemental Analysis of Wage and Compensation Data

As described previously, wage and compensation data were obtained from participants as a part of the formal interview process. No payroll records or paycheck stubs were actually examined; rather, all of the data were self-reported by the employee. Each participant was asked to indicate all of the crops he or she had worked in 1989 and, for each, to indicate the basis of pay: piece work, hourly wage, or a combination of the two.

The quality and accuracy of the data obtained in this fashion were mixed. That is, current earnings reported were probably quite accurate, while those reported from two or three jobs previous were probably less accurate. Therefore, during the data analysis process, a distinction was made between wage data reported for one's current job and that reported for any other work performed in the 1989 employment season. The average hourly and piecework earnings reported earlier in this report were based upon the employee's current job and excluded data related to previous employment and other crop types in which the participant might have been employed in 1989.

In some crop types, (e.g., nuts, vegetables and melons), workers are paid almost exclusively by the hour. In others, (e.g., citrus), they are paid almost exclusively by the piece. And in still others, (e.g., grapes), they are primarily paid using some combination of hourly wage plus piecework compensation. While these data are useful to describe the rate and basis of compensation, they do not lend themselves well to preparing meaningful summaries of "average hourly earnings." Future studies of this type should include daily or weekly statements of total earnings which could be divided by the total number of hours worked to produce comparative statistics across all crop types.

In spite of the limitations inherent in the current database, further data analysis produced summary information about hourly wages paid during the 1989 labor season in each of the major crop types: citrus, grapes, nuts, tree fruits, vegetables, melons, and raisins. The results are included in Table 23, below:

Table 23
Detailed Analysis of Hourly Wage by Crop Type

Crop Type	N	Low	High	Median	Mean
Citrus	27	4.35	5.50	4.85	4.89
Grapes	133	4.25	6.00	5.10	5.10
Nuts	30	4.25	5.25	4.75	4.92
Tree Fruits	154	4.25	5.50	4.35	4.50
Melons	10	4.25	7.00	4.35	4.95
Vegetables	10	4.25	7.10	4.35	4.85
Raisins	26	4.25	7.00	5.00	5.09

NOTE: The data contained in the above table are based upon self-reported hourly earnings by those who had one or more jobs in the respective crop type at any time during the 1989 employment season. The data exclude those who reported earning an hourly wage plus piecework compensation as well as those whose earnings were based solely upon piecework compensation.

When considering the information reported in the above table, one should be sensitive to the definitions of an arithmetic mean and a median. A mean is obtained by adding all of the values of a given variable (in this case hourly wage) and dividing by the number of cases to produce a simple arithmetic average. A median is the mid-point of the range of values, where one half of the cases fall at or above the value and one half fall below. In all cases reported in Table 23, the median is smaller (or the same as) the mean. Thus, a relatively few high hourly wage rates tended to increase the mean. In such instances, it is more accurate to describe "average wages" using the median rather than the mean, for the median is less sensitive to the inflationary influence of one or two high values.

While there are identifiable differences between average wages paid in the various crop types, one would almost certainly find far greater differences between classifications of labor in most other industries. These differences, however small, were totally unexplained by any other independent variable. The correlation between crop type and hourly wage, however, is 0.314 and is statistically significant (0.01). While this is not a particularly high level of association by statistical standards, it is the highest found when comparing earnings data to individual and employer data in this particular study.

How to Interpret these Findings

As suggested earlier in this report, wage data are of great interest to anyone associated with agricultural labor. Numerous regional, statewide and national labor policy issues may be influenced by such data, and it is important to know how to interpret the findings presented in this report.

In some of the earliest wage and earnings tables, it was evident that the average hourly earnings varied somewhat from crop to crop. In this current section, however, we were unable to "explain" these differences using any of the independent variables available in this study. We simply know that wages vary from crop to crop and from employer to employer. There seems to be no clearly identifiable pattern to the variations observed. We know from the data reported in Table 23 that there are variations in hourly wage even within crop types, but the variations between different employers, different types of farm work, and even different crops appear to be random.

The data obtained from workers in Central California cannot be generalized to workers in other crops or in other agricultural regions of the state without additional study. There are surely regional differences between the San Joaquin Valley where this study was conducted and the Imperial Valley, for example.

Field interviewers reported much variation from employer to employer in wages and working conditions, and this variation is evident in the data in Table 23. For virtually all of the crops, there is at least a 20 percent difference between the lowest hourly wage reported and the highest hourly wage reported. Yet, when this differential was examined statistically, nothing "explained" the difference. This leads us to conclude that there is a significant lack of standardization in wage and compensation rates among farm labor employers in Central California. We cannot estimate or approximate a true "average" wage, or prevalent wage, or typical yearly income in this region.

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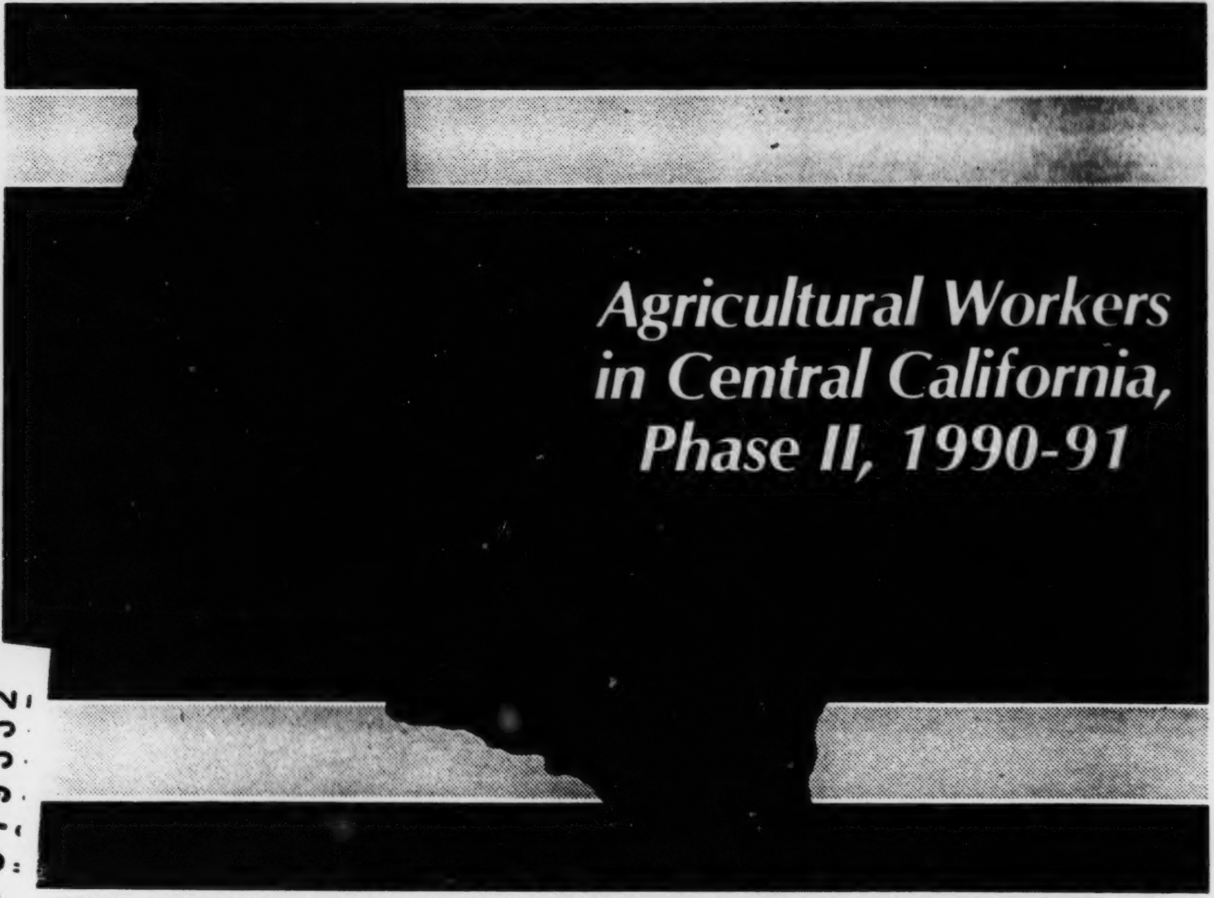

Agricultural Workers in Central California, Phase II, 1990-91

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Employment Development Department

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Agricultural Workers in Central California, Phase II, 1990-91

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Executive Summary

Researchers at the Center for Agricultural Business at California State University, Fresno (CSUF) conducted a 12-month study of 270 agricultural workers in Central California between July 1990 and August 1991. Represented in the study were workers employed in citrus, table grapes, raisin grapes, tree fruits, vegetables, and melons. The workers performed a variety of tasks. The individual sample of 270 farm workers was drawn from a group of randomly-selected employers in Fresno, Madera, Tulare, and Kern Counties.

Overall Findings

The study sample consisted of 54.8 percent men and 45.2 percent women due to the oversampling of women by a factor of 2. This sample compared favorably to the demographic information obtained from the random samples drawn for the 1989-90 EDD study *Agricultural Workers in Central California in 1989.* Their mean age was 34.4 years. Slightly over 67 percent of the workers interviewed were married, and 75 percent had dependent children under the age of 16. Nine of ten workers were born in Mexico, and 85 percent speak only Spanish.

Average hourly earnings reported by the 270 persons interviewed differed significantly between crop types, tasks, and gender. The 211 workers who were paid an hourly wage reported earning an average of $4.66 an hour. At the low end of the scale were those who worked for farm labor contractors (FLCs) and earned an average of $4.27 an hour. Table grape workers, at $5.08 an hour, ranked highest among the hourly employees in the sample.

Women Farm Workers

The 122 women in the sample were employed primarily in vegetables, table grapes, and raisin grapes. About half were engaged in weeding, and the other half were harvesting at the time of the interviews. Of the 75 percent who were married, virtually all were currently living with their spouses, also employed as farm workers. On the average, women in the sample began working in the United States farm labor market 5.1 years after marrying. Only 35.2 percent of those interviewed reported that they were working in the United States legally, yet 78.7 percent indicated that they had documents allowing them to meet the requirements of the Immigration and Naturalization Service and employers.

Over 80 percent reported that they must arrange for daily child care for dependent children. Three-fourths of the sample indicated that they had sole responsibility for preparing the family meals, cleaning the house, and doing the laundry. Nearly half stated that they had the sole responsibility for dealing with schools, medical practitioners, and other public agencies.

Women reported being paid less than men in all but one category of crop type and task type where the study sample included both men and women.

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The Oaxacan Raisin Grape Workers

This study included a group of Mixtec Indians from the Mexican state of Oaxaca (pronounced ***wah-hawk-ah***) who were employed in harvesting raisin grapes. The Oaxacans averaged 31 years of age and included five men and nine women, half of whom were married with children. Thirteen members of this group spoke neither Spanish nor English; they relied upon one member, who functioned as a farm labor contractor on their behalf, to communicate with employers and arrange for jobs.

On the average, the Oaxacans earned $3.99 an hour harvesting raisins. All but one was paid on a piece-rate basis. The nine women earned an average of $3.61 per hour.

The Melon Workers

Melon harvesters are specialists. Crews may form early in the season in Mexico and Arizona, moving together under the leadership of a crew boss who may or may not function as a labor contractor. As new individuals are hired, they are assigned by the crew boss to a crew with which they can keep pace. Slow workers go to the slower crews, and fast workers stay with the faster crews.

Working solely on a piece-rate basis, those who harvest melons are among the highest paid agricultural workers included in the study. Melon crews usually consist of young men who share wages based upon the productivity of the entire crew. In the beginning of the melon harvesting season, crews may work six days a week for up to 10 hours a day. Towards the end of the season, crews may be working 14 hours a day, seven days a week. Earnings average $10.00 an hour at the beginning of the harvest season. By the last week of the harvest, individuals on the fastest crews may earn up to $15.00 an hour.

Agricultural Workers In Central California, Phase II
1990-91

Part One: Overview of the Study

Agricultural economists and social science researchers at the Center for Agricultural Business at California State University, Fresno (CSUF) recently completed this one-year study of agricultural workers in Central California's San Joaquin Valley. Conducted under contract with the California Employment Development Department (EDD), it began with the late-summer crop harvests in 1990 and concluded with the mid-summer crop harvests in 1991. All of the labor-intensive crops of Central California (i.e., raisins, table grapes, citrus, tree fruits, vegetables, and melons) and all of the major farm labor task-types (i.e., harvesting, pruning, weeding, irrigating, tractor operation) were included in the 12-month study.

Although this study was developed and funded independently, it built upon several previous studies of California farm workers conducted for EDD by the same group of CSUF economists and researchers (See *Agricultural Workers in Central California in 1989*). Like the previous studies, the 1990-91 effort sampled employer-growers and farm labor contractors (FLCs) in Fresno, Madera, Kern and Tulare Counties utilizing EDD's list of employers who pay Unemployment Insurance (UI) taxes.

Specially-trained bilingual interviewers administered the survey instrument in Spanish or in English depending upon the participant's language preference. Interviews were conducted at the work site in most instances and always with the employer's consent. Each participant received $10 upon completion of the 30-minute interview as an added incentive. In many cases, employers allowed the workers to be interviewed on the job with no loss of hourly pay. Employer cooperation, as in previous years, was notably high.

The basic study design was similar to that followed in previous years' efforts. That is, interview items were developed around the key issues to be investigated and a representative sample of workers was selected cooperatively by the field research coordinator and each employer. Unlike previous studies, however, the 1990-91 project went beyond interviewing a statistically-representative sample of workers in each crop type and focused upon several previously-identified subpopulations. Special emphasis was placed upon the study of women in the agricultural workforce, upon raisin workers, and upon melon workers. Thus, sampling emphasis was placed upon the crop types where researchers were confident of finding a high concentration of women such as in grapes and raisins. The net result was an oversampling of women in selected crops (see Part Two). Because of the purposeful sampling bias used in the current study, many results are not directly comparable with studies based upon totally random samples.

Pre-coded interview data were entered into a computer data base, verified for accuracy and subjected to statistical treatment using conventional statistical software programs. The final database includes a total of 270 cases with 131 variables per case. Approximately one-third of the interview items used in the 1990-91 instrument were identical to items used in previous studies. These included primarily items pertaining to the subject's age, gender, birthplace, level of education, and other descriptive background items. Another one-third of the items were re-written from previous years to improve clarity and reduce ambiguity of responses. This was particularly the case for questions about wages, where workers typically experience a great deal of confusion and poor memory. All wage and related questions asked were set in the context of the subject's current job and employer. Therefore, these data are believed to be among the most accurate and reliable obtained to date. About one-third of the items contained in the instrument were used for the first time in this study and focused upon special topics such as women in the farm labor force, job-hunting and related employment data, and descriptive information about the kind of work performed and how job information is typically communicated in the seasonal farm worker community.

All interview items were pilot-tested in Spanish and English, often resulting in some modification in terminology or phraseology in order to reduce ambiguity and possible misunderstanding by the subject. This was particularly the case in making the English-to-Spanish conversions. For example, the term "Unemployment Insurance" has no common equivalent in Mexico or in Spanish. Therefore, the term was explained as a part of the interview (Spanish version). The interview schedule in its final form appears in Appendix A (English version) and was administered in this form to all 270 subjects.

Part Two: Characteristics of the 1990-91 Sample

The study drew upon a sample of Central California employer-growers and farm labor contractors who were included in the 1988 EDD Unemployment Insurance (UI) database. The employers were sorted by county and by crop type. Each resultant list of employers was then sorted from "highest" to "lowest" on the basis of the total amount of UI-covered wages paid in 1988, which approximates employer size for sampling purposes. Large employers fell into the uppermost one-third of the ranked-ordered list, medium in the middle one-third, and small in the lowest one-third. The final employer sample included 33 employer-growers and five farm labor contractors (FLCs) from which individual samples of employees were obtained.

Table 1

Individual Sample by Crop Type and Employer Size

EMP SIZE	Melons	Vegetables	Grapes	Raisins	Tree Fruit	Citrus	FLCs
Large:	20	76	63	0	20	7	22
Medium:	0	0	0	0	18	0	0
Small:	0	23	5	14	0	2	0

As indicated by the information in Table 1, the distribution of the sample of agricultural workers is skewed toward the large and, less so, the small employers. Employer selection was influenced substantially by the need to work with those employers (i.e., crop types, task sets, and size) where the researchers would be certain to achieve subpopulation sampling goals, such as high concentrations of female workers, from which to draw samples randomly. Raisin employers, for example, are characteristically small compared to other Central California commodity growers. Inasmuch as the study emphasized women as a special topic, and inasmuch as raisin producers historically employ a relatively large number of females, the employer sample contains a greater than otherwise expected number of small employers.

Ordinarily, such a sample bias would have to be corrected statistically when drawing conclusions across the entire study population. Yet, previous studies conducted by the researchers and reported to the EDD have suggested that employer size is of little significance when comparing employee data. That is, earlier comparisons of individual subject data such as age, level of education, or any of a number of other personal and work characteristics showed virtually no variation by employer size, (c.f., Alvarado, Riley and Mason, 1990). For this reason, employer size and the necessary oversampling of large and small employers were not considered to be critical factors in the final data analysis. The specific sampling issues associated with each subpopulation will be discussed in the various topical sections to follow.

Individual Sample Demographics

We have made note of the fact that the 1990-91 sample of individual farm workers includes a larger number of females than would be expected if researchers had simply drawn a "statistically-representative" sample of workers from each randomly selected employer. Previous studies such as the 1989-90 EDD (Ibid.) project involving similar crops and geographic regions showed that approximately 25 percent of the farm labor force are women. Yet, for reasons of oversampling, women comprised 45 percent of this study sample (see Table 2 below). To the extent that certain demographics might be affected by gender, one must be cautious when generalizing from this study sample as a whole to the universe of farm workers in Central California. For example, we will later show that women on the average have been doing farm work in the United States approximately two years less than their male counterparts. With twice the number of women in the sample as would be normally expected without oversampling, the "average" length of time that the study population as a whole has been involved in farm work is negatively influenced (i.e., reduced) by the oversample of females.

Table 2
Personal Characteristics of Farm Laborers
by Crop Type

VARIABLES	Citrus	Grapes	Melons	Tree Fruit	Vegetables	FLCs	Raisins	TOTAL SAMPLE
Age (in years)	30.7	37.2	31.9	32.5	34.7	36.1	27.9	34.4
Gender:								
Males (%):	0.00	64.7	99.9	99.9	41.4	00.0	35.7	54.8
* Females (%):	99.9	35.3	00.0	00.0	58.6	99.9	64.3	45.2
Marital Status:								
Single (%):	55.6	20.6	15.0	36.9	22.2	22.7	36.7	25.2
Married (%):	44.4	75.0	80.0	63.2	69.7	54.5	50.0	67.8
Common-Law (%):	00.0	02.9	05.0	00.0	04.0	09.1	07.1	03.7
Separated (%):	00.0	00.0	00.0	00.0	01.0	04.5	07.1	01.1
Divorced (%):	00.0	00.0	00.0	00.0	01.0	00.0	00.0	00.4
Widowed (%):	00.0	01.5	00.0	00.0	02.0	09.1	00.0	01.9
Education (in years):								
Grade U.S	00.4	01.0	00.5	00.3	02.3	00.0	00.0	01.2
Grade Mexico	03.7	04.0	05.0	04.8	04.4	04.6	04.4	04.4

* Women were oversampled by a factor of at least 2X across entire population.

In summarizing the demographic data, it is evident that in spite of sample biases, most of the demographic characteristics of the sample are similar to those obtained from "statistically-representative" samples drawn in previous studies such as the 1989-90 EDD project. Specifically, we see no significant differences in factors such as age, marital status, number of children, level of education, or other personal characteristics when comparing these data to those obtained previously. In these factors, at least, there seems to be no gender-bias. Thus, for purposes of this report, we will not offer gender comparisons except in those instances where significant differences were found and where other independent factors could not explain these differences.

The central tendencies may be summarized as follows: the majority are married, have little formal education, and are in their early to mid-thirties. It is further evident that 85 percent of the sample speak only Spanish, 91 percent were born in Mexico, 86 percent are citizens of Mexico, 75 percent have one or more dependent children, and the average number of dependent children is between two and three. Later in this report, descriptive findings will be offered for each of the special subgroups (i.e., women, Oaxacans, melon workers) and where some interesting distinctions may be found.

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Part Three: Work and Compensation

For most crop types, seasonal tasks such as weeding, harvesting, and pruning often require employers to hire different labor crews for each type of task. It is the exceptional crop type that allows an employer to maintain a more or less permanent crew, either year-round or from one season to the next.

Because of the seasonal nature of most crop cycles and because of the tendency for workers to develop crop and task "specialties," most agricultural workers are employed each year by many different employers. In such a labor market, it is important to better understand how specific jobs are found, how adequate supplies of labor are provided, and how work is compensated throughout the industry and for specific crop and task combinations.

The study was conducted through an entire crop production year, starting with the late-season crop harvests in summer of 1990 and continuing through the mid-season crop harvests in summer of 1991. Table 3, below, offers a breakdown of the total study sample by crop and task.

Table 3

Individual Sample of Farm Laborers by Crop Type and Task Type 1990-91

TASK TYPE	Citrus	Grapes	Melons	Tree Fruit	Vegetables	FLCs	Raisins*	TOTAL SAMPLE
Harvest	9	46	20	38	25	0	14	152
Prune	0	13	0	0	0	0	0	13
Weed	0	0	0	0	68	22	0	90
Irrigate	0	0	0	0	5	0	0	5
Other	0	9	0	0	1	0	0	10

* See Part Five for full description of the Oaxacan raisin workers and employment terms

Clearly, the majority of the sample members were involved in harvesting which is the most labor-intensive aspect of crop production. The data in Table 3 indicate that approximately 60 percent of the total sample was involved in harvesting at the time that the interviews were conducted. Weeding is another labor-intensive activity, particularly in vegetable production where the vast majority of workers are women. Due to the need to oversample females for this particular study, one-third of the total sample (including 100 percent of those who were employed by farm labor contractors) were employed to weed vegetable crops at the time that the interviews were conducted. One should not conclude from these data that a third of the annual farm labor force is employed to weed vegetables. This is clearly an artifact of the need to oversample women, the tasks in which they are typically employed, and the timing of the interviews.

Job-Seeking Behaviors

Given the dynamics of farm labor supply and demand, one of the most interesting aspects of seasonal agricultural employment is how individuals seek and find employment opportunities. All who were interviewed were asked how they found their current jobs.

Table 4

How Respondents Found Their Current Job

Contact Person or Agency	Frequency	Percent
Friend	93	34.4
Family	111	41.1
Self	47	17.4
Employer	11	4.1
State Agency	1	.4
FLC	1	.4
Other	6	2.2
Total	**270**	**100.0**

Unlike most other documented job-seeking behaviors among American employees, seasonal farm workers rely almost exclusively upon friends and family to find work. The significance of this finding increases when one considers the number of individual employers that a typical farm worker might have in a given year or season. Those surveyed in 1989 (N=370) reported that they had worked for an average of 3.8 employers during the current harvest season. Workers in commodities or tasks of short duration, whose jobs for any particular grower might last only a week or two, may have a dozen or more employers during any given season of production. Still, the vast majority of those interviewed (76.2 percent) reported that it took less than a week to find their current jobs.

Nearly everyone surveyed indicated that they had experienced at least one period when it was extremely difficult to find work during the past year. Over 90 percent informed us that work was nearly impossible to find in the winter time. Although 221 (of 270 interviewed) reported that they would prefer not to work for a farm labor contractor, over 50 percent said that they would be willing to do so if that would help them find employment.

Compensation

From a methodological standpoint, one of the most illusive types of data is that concerning actual earnings among seasonally-employed agricultural workers. Querying farm workers about what they earned two or three jobs ago or three or four months ago is problematic. People simply do not remember with any degree of accuracy. And employees are often confused between gross and net pay. However, people are aware of what they are ***currently*** earning. Therefore, interviewers for this study asked several questions pertaining to current earnings, hourly rates of pay, piece rates, and average number of piece-units produced per hour. These data are probably some of the most accurate of their type, due to the nature of the questions and the interviewers' efforts to verify reports by looking at pay stubs and other written records, when these were available.

Table 5, below, includes only those workers who were paid on an hourly basis (N=211). Melon and citrus workers, paid only on a piece-rate basis, are not included in Table 5. The rates shown represent averages in dollars. The data suggest differences between crop types and between task types in the same crop category. Also of particular interest is the relatively lower rate of hourly earnings for those employed by farm labor contractors. All of these cases were weeding vegetables. The comparison further substantiates worker claims that those who work for FLCs tend to earn an average of 15 cents an hour less than those working the same crop and task and being paid directly by the grower.

Table 5

Hourly Pay for Those Paid Hourly Wage by Crop Type and Task Type

Crop and Task	Hourly Rate*	N
Vegetables	**4.47**	**99**
Harvest	4.44	25
Weed	4.38	68
Irrigate	5.64	5
Tractor	5.40	1
Raisins	**5.00**	**1**
Harvest	5.00	1
Grapes	**5.08**	**51**
Harvest	5.10	46
Prune	4.85	1
Other Tasks	5.00	4
Tree Fruit	**4.80**	**38**
Harvest	4.80	38
Farm Labor Contractors	**4.27**	**22**
Weed	4.27	22
For Hourly Wage Population	**4.66**	**211**

* As explained in text, the wage data reported above were obtained using a set of questions and arithmetic calculations unique to this study. The methods that were utilized attempted to eliminate errors in reporting due to faulty memory, tendencies to approximate, and ambiguities often associated with hourly and piece-rate compensation. Direct comparisons of these data with those obtained in other studies might be misleading due to differences in methods of assessment and verification.

Table 6, below, includes workers who were employed on a piece-rate basis (i.e., a tray of raisins, a bin of oranges) as well as those paid on an hourly basis. For piece-rate workers, hourly compensation was calculated by multiplying the piece-rate per unit by the average number of units completed during a work shift. The product was then divided by the number of hours in the shift, resulting in an hourly "wage" equivalent. For hourly workers, the same data as reported in Table 5 were used.

Table 6

Average Hourly Earnings for Hourly and Piece-Work Employees by Crop Type and Task Type

Crop and Task	Hourly Rate	N
Melons	10.00	20
Harvest	10.00	20
Vegetables	4.48	99
Harvest	4.44	25
Weed	4.39	68
Irrigate	5.64	5
Tractor	5.40	1
Raisins	3.99	14
Harvest	3.99	14
Grapes	5.10	64
Harvest	5.10	46
Prune	4.80	12
Other Tasks	5.76	6
Citrus	7.32	9
Harvest	7.32	9
Tree Fruit	4.80	38
Harvest	4.80	38
Farm Labor Contractors	4.27	22
Weed	4.27	22
For Entire Population	5.14	266

Table 6 contains several interesting findings including the relatively high hourly piece-work earnings of melon workers (see Part Six for special discussion), the relatively high hourly piece-work earnings of citrus workers, and the low hourly piece-work earnings of raisin workers (see Part Five for special discussion). It is important to note that the citrus worker and the raisin worker samples include a high concentration of females and that the compensation data included in Table 6 are almost certainly influenced by gender-specific differences. Also, field interviews indicate that workers have difficulty in estimating how many hours they work each day when paid on a piece-rate basis. Over-estimates of hours worked result in under-estimating average hourly earnings. A discussion of these and other possible influences will be presented in the special topic sections to follow.

Part Four: Women and the Farm Labor Market

The 1989-90 study conducted by the CSUF research group for the California Employment Development Department indicated that women comprise up to 25 percent of the seasonal farm labor employee population in Central California. Entirely random samples of agricultural workers in various work sites, crop, and task types consistently produce aggregate study populations consisting of about 25 percent women. The data suggested that the proportion of women varied greatly depending upon the crop type and the specific kind of work being performed.

The data also suggested that most of the women appearing in the aggregate samples were married, had dependent children, accompanied their husbands from site to site in search of seasonal employment opportunities, and, when employed, worked more or less the same hours as their spouses. In most ways, the background demographics of women farm workers were the same as their male counterparts: born in Mexico, 34 years of age, little formal schooling in the U.S. or Mexico, monolingual Spanish-speaking only, and primarily dependent upon friends and extended family members to help them find employment.

Beyond this rather generic information, little was known prior to 1990-91 about the role, relationships, and responsibilities of the female agricultural worker within the contexts of marriage, parenthood, and the job itself. Yet, a number of important questions arise regarding the care and welfare of the children and family, the availability of employment opportunities, and patterns of work and compensation. These and other issues prompted CSUF researchers and EDD to give special attention to the female agricultural worker in the 1990-91 study design.

The survey instrument developed for this study includes 27 interview items that were asked only of female respondents (see items C-1 through C-27, Appendix A). The sample included approximately twice the number of women as would have been included using entirely random sampling techniques. And, inasmuch as the study sampled crops and task types over an entire 12-month period, it was possible to focus upon those crops and tasks where female workers make up a significant portion of the overall labor force (see Table 2, page 4).

A Brief Profile of the Female Farm Worker

Like their male counterparts, 75 percent of the women in the study sample are married and are currently living with their spouses. Over 90 percent were born in Mexico and 86 percent continue to be Mexican citizens. Their mean age is 34.5 years, they have completed an average of four years of formal education in Mexico, and 82 percent speak Spanish as their sole language.

Approximately 72 percent of the women interviewed reported having at least one dependent child under the age of 16. The median number of children is three, with the mean age of the youngest being seven years and the mean age of the oldest being 16. On average, women had been married for 12 years and worked in seasonal agriculture for the past nine years. An analysis was performed whereby, on an individual case basis, the number of years employed as a farm worker was subtracted from the number of years married. The net difference revealed that the women in our sample had been married for 5.1 years on average prior to joining the labor force.

The data do not allow us to determine whether these women were otherwise employed prior to starting seasonal farm work, but the data do seem to suggest that, as families grew and as the first children grew older, there was increased economic need and even opportunity for mothers to begin working alongside their spouses (and other extended family members).

Residential Status

On the basis of self-reported data and with no form of verification requested or otherwise provided, 44.3 percent of the women interviewed reported that they were working and residing in the U.S. illegally. In addition, slightly over 20 percent chose not to respond to this question. Only 35.2 percent declared that they were here legally. When asked if they possessed documents that are required by law to work in the U.S., however, 78.7 percent replied affirmatively. Another 2.5 percent indicated that they had applied for but had not yet received such documents. If these data are accurate as reported, over half of the documents held by the respondents are not valid.

Compared to previous years' self-reported data for both males and females, the incidence of illegal workers is increasing. In 1989, 6.8 percent of those interviewed reported that they were "undocumented." By 1991, 12.3 percent self-reported that they had no documents. Compared to their 1991 male counterparts, "illegal" status is twice as prevalent among women.

Further analysis indicated that there is a slightly higher incidence of illegal status among younger women (and men), but that age alone is not the influencing factor. Generally, persons who were not employed in the United States prior to 1986 cannot legally qualify for documents. By their own admission, 39.3 percent of the women interviewed have been farm workers for less than the time needed to make them eligible. It remains to be seen what the long term effects will be of women who postpone their entry into the farm labor market. One would expect that the incidence of non-compliance will be higher among women than men for some years to come. That is, to the extent that women tend to enter the U.S. farm labor force later than their husbands, and often in response to worsening economic conditions in Mexico, we might expect to find an increasing number of "undocumented" (or falsely-documented) women working alongside their "documented" husbands who qualified earlier.

Home and Family Roles

Second only to the family's economic welfare, child care concerns are foremost on the minds of most farm worker mothers. Among those with children under the age of 16, 80.9 percent indicated that they must find daily child care for the hours when they work. Nearly two-thirds of these reported that it is difficult (or very difficult) to make suitable child care arrangements in spite of the fact that these services are most often provided by other members of the family (33.8 percent), by friends (31.3 percent), or by grandparents (27.5 percent). Very few mothers know about or utilize the services of day care programs or other government agency child care assistance services.

Over half of those with children (55.8 percent) must pay for daily child care services, even though two-thirds of them *utilize the help of extended family. The* median daily cost of child care is about $9.50 among those who pay for this service. For most, this represents about 2.5 hours worth of the day's total earnings. The need to work often surpasses the need to leave dependent children in another's care, however, as 29.8 percent of those with children reported that they must sometimes go to work even though they do not have adequate child care.

For two-thirds of the women with children, the day begins before 4:15 in the morning. Three-fourths of them reported having primary responsibility for preparing all of the meals for the family; 70 percent are solely responsible for cleaning and doing the laundry; 26 percent assume responsibility for planning the family budget and paying the bills. Nearly half reported having sole responsibility for maintaining contact with various public service organizations such as schools, medical practitioners, employment and other governmental agencies. Yet, 85 percent of those surveyed responded that they would prefer to work full-time on a regular basis if work were available to them. Only 18 percent indicated that they would prefer to stay home rather than work. Eighty-five percent said that they planned to still be doing farm work in three years.

Although relatively few of the women we interviewed expressed much optimism regarding the ways in which the immigration laws and the promise of legalized residential status have affected their own lives, almost 80 percent indicated that they definitely planned on becoming permanent residents of the United States. About 40 percent said that the law will probably change what their children will do for a living. Nearly 90 percent said that they would encourage their children to pursue jobs other than farm labor.

Working Conditions and Compensation

Even among women (and probably due to the similar tendency among their spouses), there is a high degree of crop and task specialization. Over 90 percent of those surveyed are currently doing the same work as their first jobs upon coming to the United States. In addition to crop and task specialization, there are probably other factors at work as well. Among the easiest crops to work (according to the women surveyed) are vegetables, grapes, and raisins. According to those surveyed, the easiest tasks are weeding and harvesting, in that order. Not coincidentally, these are precisely the crops and tasks where one finds the highest concentrations of women farm workers.

Employer selection may also be a factor. Almost half of the women interviewed reported that they had been denied a job due to their being women. Of those who reported having been denied work, over half said that employers would not permit them to operate machinery (i.e., mechanized harvest equipment, tractors, trucks). About one-third reported that they had been denied irrigation work which, due to the necessity of lifting and moving heavy pipe, requires a great deal of physical strength. And approximately 20 percent indicated that employers refused to allow them to prune trees (citrus, tree fruit, nut trees). One might argue that these jobs all involve special skills or training, strength, or stamina. Yet, the women interviewed said that they believed that they are as well qualified to do these tasks as the men who were usually hired.

When asked to provide specific examples of how men are treated more favorably regarding employment and working conditions, over half of the women, who indicated that men were given preferential treatment, replied that the men are given better jobs, are allowed to work longer hours and seasons, receive better pay for the same tasks, and receive more benefits. Some suggested that male workers did not favor having women run heavy equipment, drive farm vehicles, or work on ladders. They cited "danger" to other workers and "slowing down" the pace as possible reasons that male workers and employers did not want women on certain jobs. Some of these issues are addressed in the data presented in the following tables.

The study design for 1990-91 limited questions about possible gender-related employment issues to only the women in the sample. In retrospect, and for future reference, it would probably have been wise to also ask the men about their perceptions of such differences. Without some form of "external" verification, researchers cannot determine whether the differences found between men and women workers are due to differences in skills, physical capabilities, employers' attitudes, fellow workers' attitudes, or some combination.

In all but one category where Table 7 (below) shows comparable crop and task data for men and women, women are being paid less. We have noted in the table those crops and tasks that pay on an hourly basis rather than piece-work. Thus, the discrepancies we see in the pay rates for men and women for these particular tasks are not due to differences in their piece-work performances (i.e., weeding more rows, picking more trays, etc.). The pay differences are based upon something else.

Unfortunately, the data obtained have produced a finding that cannot be fully explained. Based upon the data, one cannot say that women and men working side-by-side, doing the same task and working for the same employer are being compensated at different rates. We do not know whether these averages reflect differences in employer pay rates, crews, or even working conditions.

Table 7

Average Hourly Earnings for Piece-Rate and Hourly Employees by Crop Type, Task Type and Sex

Crop/Task/Sex	Hourly Rate	N
Melons	10.00	20
Harvest	10.00	20
Males	10.00	20
Females	N/A	0
Vegetables (hourly)	4.48	99
Harvest	4.44	25
Males	4.58	11
Females	4.34	14
Weeding	4.39	68
Males	4.52	24
Females	4.32	44
Irrigate	5.64	5
Males	5.64	5
Females	N/A	0
Tractor	5.40	1
Males	5.40	1
Females	N/A	0
Raisins	3.99	14
Harvest	3.99	14
Males	4.68	5
Females	3.61	9
Grapes (hourly)	5.10	64
Harvest	5.10	46
Males	5.11	38
Females	5.03	8
Prune	4.80	12
Males	4.42	5
Females	5.07	7
Other Tasks	5.76	6
Males	N/A	0
Females	5.76	6
Citrus	7.32	9
Harvest	7.32	9
Males	N/A	0
Females	7.32	9
Tree Fruit	4.80	38
Harvest	4.80	38
Males	4.80	38
Females	N/A	0
Farm Labor Contractors	4.27	22
Weed (Vegetables)	4.27	22
Males	N/A	0
Females	4.27	22

Part Five: The Oaxacan Raisin Grape Workers

Although difficult to document, it has long been held by social scientists who study the seasonal migration of farm workers from Mexico to California that distinct patterns of behavior develop over time. If economic or other conditions should suddenly worsen in a particular geographic area, such as a village or section of a Mexican state, one might see a fairly large group of first-time farm workers cross the border (illegally) and, by making contact with someone's friend or family member, find employment en masse in a specific location, crop type and task type.

In our hypothetical example, observers might see a pattern develop whereby a few of the original newcomers find opportunities to "settle out" (i.e. drop out) of the (illegal) migrant stream, take up permanent residence in a particular geographic location, and function as "travel agents" and "labor brokers" for an increasing number of seasonal immigrants each year. Logic would dictate that many of these undocumented newcomers would seek employment opportunities which allow them to maintain a low profile: working for small, unregistered farm labor contractors who would buffer them from the employer-grower; exchanging documents and social security numbers to satisfy Immigration Reform and Control Act (IRCA) requirements; working for less than what the majority of workers earn for the particular crop and task set. Furthermore, one might expect these individuals to be younger than average, perhaps poorer, and living most modestly during the relatively brief periods of seasonal employment. These types of migration patterns have been described and documented, for example, by Mines (1981), Palerm (1991), and Kissam, et. al. (1991).

The Oaxacans

In the late summer of 1990, researchers at CSUF discovered an opportunity to gather some preliminary data on the otherwise hypothetical scenario described above. Working through an interpreter and his contact with a small farm labor contractor, we were able to locate a group of raisin workers from the Mexican state of Oaxaca (pronounced ***wah-hawk-ah***). The group was more-or-less divided into two types: a small number of older workers who were settled-out permanent residents, and a larger group of young workers who were, by self-reported information, working in the United States illegally and without documentation.

Oaxaca is a state located in southwestern Mexico, bordered by Veracruz on the northeast, Chiapas to the east, Guerrero to the west, and the Pacific Ocean to the southwest. This state of the Mexican republic is one of the most diverse in the nation, both in terms of its geography and its residents. Over 15 distinct ethnic groups, each with its own language or dialect, reside in Oaxaca. Often, these dialects are so different from each other that communication between regions or with the Mexican central government is virtually impossible.

One of the most economically depressed regions within Oaxaca is the Mixtec region. Arid climatic conditions and severe erosion of the topsoil throughout this region make it difficult to farm. Nevertheless, the Mixtecos are able to produce some corn, beans, potatoes, chiles, and tree fruit. For many generations, the Mixtecos have been farmers. In more recent decades, they have increasingly turned to seasonal farm employment in other regions and states in Mexico to sustain homes and families. University of Guanajuato research conducted since 1990 in rural Mexican villages indicates that the Mixtecos provide a significant part of the seasonal farm labor workforce in vegetables in the Sinaloa region of northern Mexico. But their migration into the United States, (i.e., California) to seek farm employment is a phenomenon of the 1980s and 1990s. So far, Mixtecos are the only Oaxacan group identified in the San Joaquin Valley labor force. We therefore are using the term Mixtecos and Oaxacans interchangably, but the reader should understand that we are speaking only of Oaxacans from the Mixtec region.

One of the primary reasons that the Oaxacans have only recently arrived is that language differences form barriers to communication with other Spanish-speaking workers and with U.S. Spanish-speaking contacts. None of the younger workers interviewed in 1990 spoke English or Spanish, but rather communicated in the regional dialect of *Mixtec*. So limited were their English and Spanish skills that an interpreter had to be utilized to administer the Spanish interview and translate the answers to the CSUF field team. Only one member of the group reported that he did not require an interpreter to communicate with his employer (i.e., the farm labor contractor, in this case). Indeed, that individual functioned as an informal "labor broker-foreman" for the entire group. He was a permanent resident of the San Joaquin Valley, having arrived in the early 1980s.

Probably because of the communication problems identified above, the Oaxacans (and specifically the Mixtecos) were almost entirely excluded from the Bracero Program of the 1950s and 1960s. It was the Bracero Program that allowed Mexico to identify seasonal farm workers who were permitted entry to the United States for contracted farm labor. Studies conducted by the University of Guanajuato (cited previously) have revealed that many of the "grandfathers" of the Bracero Program have settled out and become permanent residents in the United States. They serve to this day as primary links to specific villages in Mexico, thus helping to explain our interview findings which have consistently indicated that entire groups of seasonal workers make arrangements for employment, in specific California locations and crop types, long before leaving home. But the Oaxacans, isolated by language barriers, and not widely included in the Bracero Program, left no "grandfathers" of their own in California rural locations, and have only recently felt sufficient economic pressures to force large numbers to migrate into specific California locations where Oaxacan/Mixtecan contacts reside.

Nine of the 14 interviewed were women. The youngest Oaxacan was 17 and the oldest was 68; the median age was 23 years. All but three in the group had been at home in Mexico within the previous six months. Half of those interviewed were married. Eleven of the 14 interviewed were sending money home to family members in Oaxaca, supporting an average of five additional persons in this fashion.

Most of those interviewed (61.5 percent) harvested vegetables as their first jobs in the U.S., not unlike their seasonal employment histories in Mexico's Sinaloa region. Once having arrived, and with the the assistance of the farm labor contractor, those interviewed had obtained post-vegetable work harvesting raisins. Due to the crop cycles, workers can pick vegetables through the middle of the summer season and then pick raisin grapes in September.

Virtually everyone interviewed reported that they had been recruited by their employer (i.e., the labor contractor) and that they knew exactly what crop(s) and what task(s) they would be working prior to leaving Mexico. Unlike the majority of others interviewed for this study, only about half of the Oaxacans indicated that they planned to eventually become permanent residents of the United States.

Working Conditions and Compensation

Previously, Table 6 (page 10) and Table 7 (page 17) revealed that raisin harvesters averaged $3.99 an hour, which is below the current minimum wage of $4.25 an hour, and substantially lower than raisin harvest averages reported in the 1989-90 study conducted by CSUF for EDD (over $5.00 an hour). Now, recognizing that 100 percent of the raisin harvester sample interviewed in this study are Oaxacans (N=14), it is clear why we cautioned readers against drawing conclusions from the raisin wage data presented earlier in this report.

Moreover, the comparison in Table 7 between male and female average earnings for raisin harvesting ($4.68 an hour and $3.61 an hour, respectively) is further explained by the fact that the nine women in the sample of Oaxacans are the younger, illegal workers while the males in the sample include the older, settled out employees. The senior-most of the group, in fact, reported earning $5.00 an hour on the basis of an hourly wage and not on the basis of piece-work. This has a tendency to inflate the average wage rate of males, particularly given the smaller sample of men (N=5) compared to women (N=9).

Whether these relatively low earning rates are caused or influenced by factors such as illegal status, limited language skills, or working for a labor foreman who is functioning as an unregistered farm labor contractor, the fact remains that the Oaxacans are being compensated at a rate below that of other agricultural workers.

Ten of the 14 interviewed reported that they were not, to their knowledge, eligible to receive Unemployment Insurance benefits on their present jobs. Nine of 14 surveyed reported living in "other" housing which is the coded category for "no housing." That is, these individuals are living in the vineyards, in automobiles, or otherwise out in the open during these relatively short periods of time when they are harvesting raisins. These jobs tend to last only a few days, as most of the raisin producers in the San Joaquin Valley are very small growers. When each job is finished, the entire crew reported that they go almost immediately to the next job which is brokered by the senior-most person who functions as an interpreter and labor contractor. It is interesting to note that the Oaxacan raisin grape workers are not identified in the data as working for a farm labor contractor, Yet, 100 percent of them reported that they were. This apparent discrepancy is explained by the fact that they were notified of work opportunities while in Mexico and were hired as a "crew" through arrangements made by the senior worker who is a permanent U.S. resident. This is an example of an "unregistered labor contractor" who finds jobs, negotiates pay, and might even receive pay incentives from the employer for providing the crew and supervising their work.

The Oaxacan situation is probably not unique. It mirrors the hypothetical scenario described at the beginning of this section and echoes a story that has been repeated countless times in the history of Central California farm labor. In this instance, however, due to the distinctiveness of the Oaxacans' geographic origin and language, these most recent arrivals to the farm labor pool offer a unique opportunity to examine the migration process.

Although the sample is small, repeated measures used in interviews by CSUF researchers now provide at least some hard evidence that many of the farm jobs taken by the Oaxacans are among the most temporary, the least desired, and the lowest paid in Central California agriculture. The jobs typically last only a few days, such as vegetable weeding, "stoop labor" vegetable harvesting, and raisin grape harvesting. Comparisons of wages and working conditions between crops and task types have consistently shown these to be among the lowest compensated tasks in the farm labor industry.

Part Six: The Melon Workers

When the mid-summer temperatures rise into the 100s and the San Joaquin Valley nights stay warm, the annual crops of cantaloupes and watermelons ripen quickly and achieve the desired level of sugar content. For six to ten weeks from July through September, the melon workers harvest with highly-organized and specialized crews. They are compensated entirely by piece-work, and the entire crew shares in their collective productivity by each member receiving the same hourly rate based upon the crew's total daily production.

In Fresno County in 1991, over 38,000 acres of cantaloupes were harvested by approximately 3,900 workers. The market value of these melons is estimated to be in excess of 91 million dollars, making cantaloupes the uncontested leader among Central California melon and vegetable commodities. In this context, it is important to point out that the previous study conducted by CSUF for EDD combined vegetable and melon worker data. This was due to the fact that these commodities share a common Standard Industrial Classification (SIC) code, and the samples were drawn according to SIC code. An examination of the resultant data showed that it is methodologically incorrect to combine vegetable and melon data, for there are significant differences between these two crop types. The largest of the vegetable crops is processing tomatoes which are farmed on large acreages and are harvested mechanically. Small crews of workers are compensated on an hourly basis to operate equipment, monitor the mechanized harvest process, and sort the tomatoes as they are being processed along conveyor belts into waiting trucks. Conversely, cantaloupes are labor-intensive and compensation is based entirely upon piece-work. Large crews of melon workers pick the fruit manually, dragging 90-pound bags for up to 14 hours per day. Because of these differences, this study looked only at the cantaloupe (i.e., melon) workers and did not include the mechanized non-labor intensive process tomato harvesters.

At the beginning of the cantaloupe harvest season, crews usually work nine or ten hours per day, six days a week. As more of the fruit ripens and large quantities simultaneously reach a point of "pick or perish," hours are often extended to 14 hours per day, seven days a week. By then, crew bosses have moved the slower pickers from the fast crews to slower crews, replacing them with only the fastest and most efficient. Observers of this process have called the pace set by the strongest and most skilled crews "feverish."

The all-male crews (few women have been identified on melon harvest crews in three years of study) consist of young men who are in their early thirties (31.8 years average age), are better educated than most other seasonal farm workers (5.5 years in Mexican schools), and are second only to year-round citrus workers in terms of the proportion reporting that they are working legally in the U.S. and that they have documents (75.0 percent and 95.0 percent respectively). Also from the data is the fact that these are married men (85.0 percent), with families. Nearly all have children but, compared to others in the study, their families are still young (three years average age of the youngest, seven years average age of the oldest).

It is not surprising that those hired to harvest cantaloupes are strong, young males. "Stoop labor" in the warmest days of the San Joaquin Valley summer is difficult under the best conditions. But when the workers must put in 12 to 14 hours per day, seven days a week, and must carry 90-pound bags through the rows of melons, only the strongest are capable of keeping up with the crew's pace.

Questions related to the workers' background and employment history revealed that there are two distinct types of melon workers. One type is the person who is employed by a large grower with acreage in Arizona, in the Southern California desert region, and in the San Joaquin Valley. Such individuals (or crews) are hired to begin the annual cantaloupe harvest in Arizona in the spring, then move on to Southern California in the same crews, and finally to the San Joaquin Valley to complete the annual cycle. Such workers are employed an average of two more months per year in melon harvesting as compared to the second type of worker who harvests cantaloupes only in the San Joaquin Valley during the 10-12 week season.

All 20 of the melon workers included in this study lived in housing owned by the employer—farm labor camps. They reported finding their current jobs in less than a day and that most of their seasonal jobs came as a result of their (former) employers contacting them. Like other seasonal farm workers, the melon harvesters reported that they knew where they were going to work, when, and for whom long before they left Mexico (or Arizona, or Southern California). An informal communication network, usually involving the grower or his labor contractor, a local friend or family member, and the prospective employee, provides accurate job information resulting in thousands of workers arriving for work within two or three days of the seasonal start-up. Even in the San Joaquin Valley where cool weather delayed melon harvests for three to four weeks in 1991, those interviewed reported that they knew exactly when to schedule their arrivals so as to begin work almost immediately.

Although a farm labor contractor or a grower may hire individually, it is basically a crew that is assembled at each harvest site. And, once assembled, it is this same crew that moves from job to job throughout the melon harvest season, often with the assistance of a crew boss or a labor contractor who establishes and maintains contacts with growers. As indicated previously, many of these crews are first assembled and employed in the southern inland valleys of Mexico, Arizona, and California, working their way northward with the arrival of the San Joaquin Valley melon season.

During the first week of melon production (August 1991) when the sample of 20 was interviewed, the workers earned an average of $10 an hour, ten hours per day, six days a week. At this rate, their earnings significantly surpassed all others in the study. Yet, crew leaders projected individual earnings of up to $15 an hour, 12 to 14 hours per day, seven days a week by the end of the melon harvest season. Workers reported knowing individuals earning $5,000 a month during the peak of the season. One-hundred percent of those interviewed reported that they had Unemployment Insurance benefits.

On average, those interviewed had been working seasonally for their current employer for eight years. Fifteen of the 20 were sending money to family members in Mexico where they typically visit during the winter when work is hard to find (95 percent so reported).

The melon workers are, in many ways, the polar opposites of the Oaxacan raisin workers. The melon workers reported turning down work opportunities because the rate of pay was too low or the job was too short. Ten percent of them are currently in school; a different 10 percent are currently taking classes for legalization and citizenship. But the work they do is possible only for the young, the strong and the efficient. It is not only "self-selection" that keeps out the less able workers, but the rigorous selection and assignment processes of the crew bosses. Each worker is carefully screened and evaluated on the job by his crew leader, himself an experienced melon picker. Relatively high earnings, long periods of annual employment, and assurance that the crews will be called back the following year to work for the same growers offer strong incentives to those wishing to become members of a melon crew. This is in direct contrast to the raisin harvest workers who work for relatively low wages, work for only short periods of time on jobs lasting for only a few days, and must be at the right place at the right time to find the same work again the following year.

Part Seven: Summary and Possible Implications

Findings of this study suggest that the Immigration Reform and Control Act (IRCA) is not deterring undocumented workers from entering the United States in order to find farm employment. Border Patrol apprehensions along the U.S. - Mexico border during 1990 far surpassed pre-IRCA records. Once in the San Joaquin Valley, workers are able to obtain farm work with little or no difficulty, suggesting that employers are not effectively screening out undocumented workers. Fraudulent documents (i.e., social security cards, California State identification cards) are easily and inexpensively obtained. Consequently, researchers found that as many as 50 percent of some harvest crews were illegally employed. This helps to explain why few labor shortages in any crop commodity have been reported in the region. Indeed, in 1990-91 the publication of La Coopertiva and EDD, *Voice of the Fields,* consistently reported that an overabundant supply of workers was often the case.

An oversupply of workers has made housing an even more critical issue than in the past. Researchers found a significant percentage of workers who were without housing, living in open fields, in cars, or under bridges.

Current research by CSUF and others indicates an increasing number of employers are utilizing the services of farm labor contractors (FLCs) to recruit and employ workers, even though the workers prefer to work directly for the grower/operator. Those working for FLCs report lower hourly wages, lower piece-rates, and shorter periods of employment.

Women represent a significant portion of the seasonal farm labor force in the region. In some crops and tasks, women are in the clear majority, (table grape harvesting and vegetable weeding) while in others they are practically non-existent (melon harvesting). Many women reported that they have been denied employment that is traditionally reserved for men, citing higher risks of personal injury and lack of physical capability as reasons most often given for denying them employment. Child care is the foremost concern among the 75 percent of women who are married with children. Most women reported that they would like to work full-time, all year if given an opportunity to do so. But one should not interpret these latter points as suggesting that the women are interested in making a "career" out of seasonal farm work. Most of those sampled entered the labor market only after having been married with children for a period of time, feeling that they had to begin such work in order to help support the family.

There are significant differences among sub-groups who are often generally described as "seasonal farm workers." Melon harvest workers, for example, are the highest compensated farm workers in the region. These men (no women on any melon crew) specialize in melon harvesting, work a longer overall season than other workers, and usually earn in one month more than the average annual earnings of other workers. At the other end of the continuum, there is an increasing number of workers from the State of Oaxaca in Mexico who are in the United States illegally, who speak neither English nor Spanish, who are dependent upon (unregistered) farm labor contractors or foremen, and who earn less than any other sub-group of workers identified as a part of the study.

Discussion

This 1990-91 study of Central California farm workers is the most recently completed of a series of annual surveys conducted to date by the Center for Agricultural Business, California State University Fresno (CSUF) for the California Employment Development Department (EDD) and the U.S. Department of Labor (DOL). It seems appropriate at this time, therefore, to step back from the data and offer a few informed judgments about what we have seen and how we might interpret some of our observations.

Textbooks tell us that "all good research begins with a series of questions," and that those questions not only determine what the researchers ***seek***, but what they actually ***find***. In the 1989-90 study conducted for EDD and DOL, CSUF researchers sought to develop an aggregate set of data that would be useful in describing the estimated 80,000 seasonal farm workers who come to Central California each year to plant, weed, harvest, and prune the region's labor-intensive agricultural crops. Largely because of our sampling requirements—we wanted to obtain a representative sample of seasonal farm workers—employer-growers in each of the leading Central California crops that were commonly judged to be labor-intensive, were selected. From these employers, including farm labor contractors, researchers obtained random samples of individual farm workers. In this way, the resultant individual sample would be representative of the "universe" of farm workers whom we wished to describe and even compare to other kinds of skilled and unskilled workers.

The researchers wanted to know about the background of the seasonal farm worker, where he/she called home, and how much money he/she earned in a typical year. We wanted to begin to describe the work conditions, how jobs were found, and how earnings were spent. Were entire families involved in the farm labor market, and, if so, were there any differences in the work and pay of men and women, young workers and older workers, those who were legally documented and those who were in the U.S. illegally?

In addition to having questions about the overall farm labor population, we wanted to know about the labor market. What is happening to the size of the labor pool? Is it growing smaller, as some analysts predicted, as a consequence of IRCA? Is it growing older? Is it somehow self-renewing? Are there, and are there likely to be, any labor shortages? Why, or why not?

Although the 1989-90 study was successful by most measures, the descriptive database held certain anomalies which could not be explained easily from the particular set of assumptions upon which the primary research questions were based. For example, the literature on agricultural migrants and the seasonal flow of workers suggested that a huge "migrant stream" flowed across the Mexico-U.S. border each spring, fanned out and spread northward through the months of summer, depositing groups of individuals here and there—wherever there was work. When the work was done, the group rejoined the stream and moved on to search for the next employment opportunity.

This model (i.e., the migrant stream) has historically prompted agencies to develop and fund employment programs whose purpose is to inform the farm workers where they can find jobs and where they should not look for jobs. Accordingly, such programs encourage grower-employers to advertise their available jobs so that those who come to an area in search of employment opportunities have a place to begin. And from a research standpoint, such views prompt us to estimate the size of the total seasonal labor force and to try to make a determination as to the adequacy or inadequacy of the so-called farm labor pool. Is it growing smaller? Is it growing larger? Is it changing in its basic composition?

Yet, contrary to this common-sense view of agricultural farm labor as a huge collectivity of human resources, our data simply do not support this view of the world. Like other researchers who have closely examined the patterns of seasonal employment migration, our findings also suggest that it is misleading to describe "the farm labor pool" by reporting averages for the aggregate population. This is not a huge migrant stream, flowing northward. Rather, it is the systematic migration of individuals and small groups. Our data on seasonal farm labor migration only begin to make sense when we recognize that individual and small groups of seasonal workers know exactly where they are going, what jobs they will be doing, when they need to arrive, and even by whom they will be employed, long before leaving home and entering the migrant stream.

Our data support the increasingly popular view that individual farm workers and even entire family groups tend to specialize in the crops they will work and in the types of tasks they will perform. The view that each summer brings 80,000 "general farm laborers" into Central California in search of any kind of work that they can find is not supported by our findings. In the vast majority of cases, jobs are "found" before leaving home and before leaving one job to take another. An informal communication network between workers and local area contacts keeps employers supplied with workers and workers supplied with employment opportunities.

Data analysis by crop and task types revealed the importance of commodity-specific research: how work is organized, and how workers are identified, hired, and differentiated within these subsystems. Virtually all of the data collected since 1989 vary systematically and predictably by crop and task types. Only when we cease to aggregate and focus upon crop-task analyses are we able to provide meaningful answers to the questions originally posed.

For example, in a recent study of raisin employers and workers currently in progress, CSUF researchers are discovering that a significant number of raisin employers in Fresno County report suffering labor shortages for the harvest seasons in 1987, 1988, 1989, and 1990. In some cases, these shortages reportedly caused the growers to experience financial losses. Yet, information obtained from other published sources tells us that EDD and other California agencies and organizations were reporting "an abundance" or even "an overabundance" of farm workers in Fresno County and the San Joaquin Valley. How is it possible that young, healthy farm workers can be unemployed in Fresno County at the same time that 40 percent of the raisin growers and farm labor contractors are reporting a "labor shortage?" If we are locked into the idea that a "farm worker is a farm worker is a farm worker," then we could only conclude that the raisin employers are not telling us the truth, or that government agencies and other organizations were wrong in their estimates of supply and demand. But, if we recognize that a raisin harvester is not a melon picker, or a vegetable weeder, or a table grape harvester, then the apparent anomaly disappears.

Crop-task analyses have also revealed that worker seniority plays little if any direct role in determining pay rates and other benefits. Hourly pay is most influenced by the crop and task, and least influenced by the number of years that an individual has been doing a particular type of work. So, how does a farm worker begin to maximize earnings and earning potential? Does he/she accomplish this by becoming a foreman, becoming a permanent resident or staying with the same employer for a long time? The answer is categorically no.

For all practical purposes, (and there are some exceptions), hourly earnings are more or less the same for all workers engaged in a particular task and in a particular crop. That is, the variation in earnings among workers who are all engaged in table grape harvest is significantly less than that found when comparing the average hourly earnings of workers employed in different crops and task sets. Therefore, in theory, the best way to maximize hourly earnings is to take a job in melons or citrus, and avoid jobs in vegetables and raisins. But several years of research indicate that there is virtually no crossover between crop types and tasks, especially when looking at citrus, melons, and table grapes.

Conventional economic insight tells us that the best way to get a rough idea as to one's annual earnings is to determine how much a person makes an hour. But, from a research standpoint, the hourly earnings of farm workers are only relevant to comparisons between crop and task types. We have seen, for example, that there are two types of melon workers.

One begins work on a harvest crew in Mexico or Arizona in early spring, concludes the season in the San Joaquin Valley, and has probably earned in excess of $25,000 for the season. The other weeds and picks vegetables in the late spring in the San Joaquin Valley, picks a few early melons in July, and spends the last six weeks of the season working seven days a week, 12 hours a day for a total annual income of perhaps $10,000 or $12,000. The first worker probably owns a modern house in Mexico, drives a relatively new American pickup truck (with Arizona or California license plates), and supports an extended family of a dozen or more persons on his melon earnings. The second probably owns or rents a modest home in Fresno County, owns one or more vehicles, and attends school part-time during the winter months.

These are examples of two quite different income patterns, even though the average hourly wage for both is quite likely the same. And, while interesting to compare the two, we have found no evidence that either type crosses over from one category to the other. But within categories we have found some interesting variations which suggest yet another theory as to how earnings and earning potential may be influenced.

Jorge is 26 years old, lives in Mexico, is unmarried, and has been working the California melon harvest for three years. Jorge's network does not yet include crew bosses and employers in Arizona or Southern California. He leaves Mexico each spring and spends time in the Southern California desert, seeking melon harvest employment and trying to establish himself and his reputation as a skilled (i.e., fast-crew) picker. But when the melons are ready to be picked in the San Joaquin Valley, Jorge has already arranged employment with a particular crew boss and he knows that he will enjoy 10 to 12 weeks of high-pay, high-productivity before returning to Mexico.

Raul is 27 years old, married with two children, and lives in his own home in a town not far from where Jorge lives. Early each spring, Raul loads his fairly new pickup and departs for Arizona where he has six to eight weeks of melon harvest work already arranged with his contact, the crew boss from the previous year. Before leaving Arizona, Raul has gotten the melon harvest schedule from his contact in Southern California and has arranged with his crew boss there for eight to ten weeks of employment in the inland valleys. By July, Raul is completing his work cycle in Southern California and is preparing to leave for Fresno. Jorge, who worked on a different crew for several days with one of Raul's employers, has asked Raul for a ride to Fresno where they will both work on melon crews for the full 10 to 12 weeks of the harvest season. When they leave Fresno, Jorge will pay Raul for a ride back to Mexico.

In our hypothetical example, Raul might have seasonal earnings in excess of $24,000, while Jorge is not likely to earn more than about half of that amount. They are, for purposes of our example, equally skilled and are compensated at the same approximate hourly rate. Raul, however, is well connected in the Arizona, Southern California, and Central California regions, while Jorge is still establishing his network in all but the San Joaquin Valley locations.

Herein lies the single best clue as to how seasonal farm workers can (and do) improve their earnings and earning potential over time. Within a crop and task type, individuals are differentiated by the extent to which an entire season may be worked without regard to the number of employers or the number of different geographic locations that may be involved. Lining up an entire schedule of jobs is almost entirely dependent upon the informal communication network linking the prospective employee with employers.

But what about the newcomers? What about those who have yet to establish a network and must seek employment only after arriving in an area? We know that before coming to the San Joaquin Valley, even those without a strong local network have learned of employment opportunities from those who do have the contacts. And, we know that many of the newcomers hire on with farm labor contractors in the first year or two of employment in a particular location, even if they suffer a pay penalty while working for the contractor. But it is the universal objective of virtually every seasonal farm worker to become an established member of an informal communication network which allows them to minimize the need to search for employment and maximize total seasonal earning capacity.

The Oaxacans in this current study are in "phase one" of this process, forced to work below minimum wage for an informal (i.e., unregistered) labor broker. If we were to follow the members of the group interviewed in 1991, we would find within a year or two that they no longer used the labor broker to secure employment, but would have established one or more contacts of their own in the San Joaquin Valley region, would have probably acquired sufficient documentation to satisfy the requirements of the grower-employer, and might have taken the first steps toward working table grape pruning and harvesting.

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We believe that there is a natural social system among migrant farm workers, including communication networks, which has provided California farmers with a skilled, specialized labor force for many generations. Studies currently underway will show that this social system has its roots in rural Mexican villages and is amazingly adaptive. When new laws and regulations are passed, the system finds ways to work around them and thus renews itself, year after year. As programs and agencies introduce new ways to serve the employment needs of farm workers or their employers, the informal system will probably continue to maintain its dominant position.

APPENDIX A
Interview Questionnaire
(English Version)

CALIFORNIA STATE UNIVERSITY, FRESNO

FARMWORKER SURVEY -- PHASE TWO

1990 - 1991

Date___________

County I.D.___ ___

Farm I.D. ___ ___

Crop I.D. ___ ___

Task I.D. ___ ___

Interviewer I.D.___ ___

INTRODUCTION

"Hello, my name is ______________________ and I am part of a research team from Fresno State University. We are conducting a study on farmworkers and your employer has agreed that I should speak with you. May I take a few minutes of your time to ask you some questions? You will be compensated in the amount of $10.00 for your assistance.

SHOW RESPONDENT YOUR CSUF I.D

A. Demographics

A1. Gender: 1. Male 2. Female ____

A2. What is your age? (years) ___ ___

A3. In what country were you born?

1.U.S.___ 2.Mexico___ 3.Other___

A4. If not born in the U. S., when did you last visit your country of birth?

Year __ __ Month __ __

A5. If not born in the U. S., how long has it been since you last lived in your country of birth?

Year __ __ Month __ __

A6. Of which country are you a citizen?

1.U.S.___ 2.Mexico___ 3.Other___

A7. If not a citizen of the U. S., do you plan to reside here permanently?

1. Yes 2. No

A8. If not a U. S. citizen, did you recently receive legal authorization to reside in the U. S. because you are an agricultural worker?

1. Yes 2. No

A9. If you did recently qualify to reside in the U. S. legally because you work as a farm worker, has this changed where you work in the U. S.?

1. Yes 2. No

A10. Has your new legal status as an agricultural worker changed the kind of farm work you do here?

1. Yes 2. No

A11. Do you have legal documents to be living in the U. S?

1. Yes 2. No 3. NA

A12. Do you know of anyone personally who left farm work in the U.S. after they became legalized?

1. Yes 2. No

A13. Can you read and write:

1. English 2. Spanish 3. Both 4. Neither 5. Other

A14. What is the highest grade of school you completed?
(Circle Appropriate Grade)

U.S. Schools -- 00 01 02 03 04 05 06 07 08 09 10 11 12

College or trade school: 13 14 15 16

Mexican Schools -- 00 01 02 03 04 05 06 07 08 09 10 11 12

College or trade school: 13 14 15 16

A15. Are you now attending school in the U. S.?

1. Yes 2. No

A16. If "yes", are these classes required for you to obtain legal status in the U. S.?

1. Yes 2. No

A17. Do you rely on someone else to interpret for you when you speak to your employer at work?

1. Yes 2. No

A18. How much do you understand your employer when he speaks to you in English?

1. Everything 2. Most 3. Some 4. A little 5. Nothing

A19. Does your employer speak Spanish to you?

1. Yes 2. No

A20. What is your marital status?

1. Never Married
2. Single
3. Married
4. Widowed
5. Divorced
6. Separated
7. Common-law
8. Other

A21. If married, where was your spouse born?

1. U.S. 2. Mexico 3. Other

A22. Do you live in housing that belongs to your employer?

1. Yes 2. No

A23. In what type of house do you live:

1. House 2. Apartment 3. Trailer 4. Motel 5. Labor Camp
6. Government Projects 7. Other ________________.

A24. Do you have children?

1. Yes 2. No

IF "NO" GO TO SECTION B1

A25. If "yes", how many? ___ ___

A26. If "yes", what are their ages?

1. __ __ 2. __ __ 3. __ __ 4. __ __ 5.__ __
6. __ __ 7. __ __

A27. If "yes", are any of your children employed as farm workers?
1. Yes 2. No

A28. If "yes", how many of them work as farm workers? ___ ___

A29. Do you or will you encourage your children to find employment outside of farm work?

1. Yes 2. No

A30. Please explain your response to A28 as to why or why not you will encourage your children to work outside of farm work.

____

____

____

____

CONDITIONS OF EMPLOYMENT

B1. How long have you been working for your present employer?

Years __ __
Months __ __
Weeks __ __

B2. Would you recommend this employer to others?

1. Yes 2. No

B3. How long did it take for you to find employment with your present employer?

1. One day 2. Less than one week 3. More than one week.

B4. How did you find your present job?

1. Through a friend
2. Through a family member
3. On my own
4. Employer contacted me
5. Posted announcement
6. Newspaper advertisement
7. Radio/TV announcement
8. State Employment Service
9. Farm labor contractor
10. Job training agency
11. Other

B5. During the past 2 years when you were looking for a job, did you use any of the following sources for finding work?

CHECK ALL THAT APPLY

a. State Employment Service
b. Other government agency such as welfare department
c. Community organization
d. Advertisement in newspapers, TV, or radio
e. A posted job notice
f. Recruited or applied directly to employer
g. Farm labor contractor
h. Labor union
i. Friends, acquaintances, or neighbors
j. Family and relatives
k. Other

B6. Is there a season or period during the year when it is more difficult for you to find work?

1. Yes 2. No

B7. If "yes", when? ______________________

B8. During the past year, has there been a period of time when you were looking for work but couldn't find a job?

1. Yes 2. No

B9. Have you been offered farm work during the past 6 months that you refused?

1. Yes 2. No

B10. If "yes", why?

1. Wages/pay too low
2. Too far from my home
3. No transportation
4. Employer known to be difficult to work for
5. Did not like the proposed type of work
6. No benefits
7. Period of employment was too short
8. Other__________________________________

B11. During the past two years, have you worked for a farm labor contractor?

1. Yes 2. No

B12. Do you prefer working for a farm labor contractor rather than working directly for a farm employer?

1. Yes 2. No (Explain)__________________________

____

B13. Have you helped a friend or family member find work during the past year?

1. Yes 2. No

B14. Do you purchase meals or beverages from your employer or foreman during work hours?

1. Yes 2. No

B15. Have you received Unemployment Insurance benefits during the past 12 months?

1. Yes 2. No

B16. How much do you earn in your present job?

Task Type	Crop	Hourly Rate	Piece Rate	Ave.Hr.

B17. Have you moved during the past two years in order to find work in agriculture?

1. Yes 2. No

B18. If "yes", how many times have you moved in the past two years?

(number of moves) ___ ___

B19. Do you plan to move again this year to find farm work?

1. Yes 2. No 3. Probably

B20. How many miles do you travel each day to your present job? (total to and from work

Miles ___ ___

B21. Would you be willing to move outside of the San Joaquin Valley in order to find farm work?

1. Yes 2. No 3. Probably

B22. Would you be willing to leave California to find farm work?

1. Yes 2. No

B23. If other work of equal or greater pay was available to you outside of agriculture, would you leave you present job for such work?

1. Yes 2. No 3. Not sure

B24. If your present job ended today, where would you go or whom would you contact to find another job?

CHECK ALL THAT APPLY

1. State Employment Service
2. Other government agency such as welfare department
3. Community organization
4. Advertisement in newspapers, TV, or radio
5. Look at posted job notices
6. Contact known employers
7. Farm labor contractors
8. Labor union
9. Friends, acquaintences, or neighbors
10. Family and relatives
11. Other______________________________

B25. How many persons in your family or others depend upon your earnings as a farm worker for their support?

Number of persons ___ ___

B26. Have you sent money to Mexico or to another country to help support members of your family during the past 3 months?

1. Yes 2. No

B27. If "yes", how much have you sent?

Dollars sent $____ . ____

B28. Have you read a newspaper during the past week?

1. Yes 2. No

B29. Have you heard any radio announcements that inform you about where you can find farm employment or where workers are needed?

1. Yes 2. No

B30. Do you read any publications that keep you informed about where you can find farm employment or where farm workers are needed?

1. Yes 2. No

B31. If "yes", can you tell me the name or names of these publications/radio broadcasts?

____

B32. Do you have any questions or want information about pesticide safety on your job?

1. Yes 2. No

B33. If "yes", do you know where you can go or whom to contact to provide you with such information?

1. Yes 2. No

B34. If you have been legalized through the Amnesty or farm worker provisions under the new immigration laws, do you think this will change the type of work you will be doing in the near future?

1. Yes 2. No 3. NA

IF "NO", OR IF U.S. BORN, GO TO B42

B35. If "yes", please explain:____________________________________

____

____

B36. Do you believe that your new legal status might change what your children will do to earn a living?

1. Yes 2. No

B37. If "yes", please explain:

____

____

____

B38. If recently legalized, has this changed your ability to be with your family more frequently than before you became legalized?

1. Yes 2. No 3. No change

B39. What job did you perform when you first worked as a farm worker in this country?

Crop type____________ Task____________

B40. Did you know before arriving in the U.S. that you would be working as a farm worker?

1. Yes 2. No 3. NA

B41. If "yes", did you have a good idea of the kind of crops and tasks you would be doing?

2. Yes 2. No

B42. Do you believe there are certain jobs that are easier to perform when someone first begins working as a farmworker in the U.S?

1. Yes 2. No

B43. If "yes", please describe.

Crop type____________ Task____________

B44. Are you aware of any training programs where persons like yourself can be trained for non-agricultural work?

1. Yes   2. No

B45. If "yes", if such training was offered to you, would you be interested in participating?

1. Yes
2. Yes if financial support was part of the training.
3. Yes if I could remain living in the San Joaquin Valley.
4. No

C. Women Respondents Only

C1. If married, how many years have you been married? ___ ___

C2. How many years have you worked as a farm worker? ___ ___

C3. Do you have children under 16 years of age?

1. Yes   2. No

C4. If "yes" to 3C, does someone provide child care for your children while you are at work?

1. Yes   2. No

C5. If "yes" to 4C, who?

1. Older child
2. Grandparent
3. Other family member
4. Neighbor or friend
5. Day care center
6. Latch Key program
7. Other

C6. Do you pay for child care?

1. Yes   2. No

C7. If "yes", how much per day? $_____._____

C8. How difficult is it for you to obtain adequate child care?

1. Very difficult 2. Difficult 3. Not difficult

C9. Is it sometimes necessary for you to miss work because there is no one to care for your children?

1. Yes 2. No

C10. Are there times when you must go to work even though you don't have adequate child care?

1. Yes 2. No

C11. Are you aware of any government supported child care centers in your community or near your home that could provide care for your children while you work?

1. Yes 2. No

C12. On days that you work, what time do you usually begin pre paring for work in the morning?

(Time) _______________

C13. Who assumes the major responsibility for preparing meals for your family on days that you work?

1. Self 2. Spouse 3. Children 4. Self & Spouse
5. Other_______________

C14. Who assumes the major responsibility for doing household chores, e.g., house cleaning, laundry, etc. on days that you work?

1. Self 2. Spouse 3. Children 4. Self & Spouse
5. Everyone in family cooperates 6. Other _______________

C15. Do you work full-time as a farm worker?

1. Yes 2. No

C16. If "no", why not?

1. Weather
2. End of season
3. My income is only supplemental
4. Other

C17. Have you missed work during the past 3 months to care for someone in your home who was ill?

1. Yes   2. No

C18. Who is primarily responsible for paying bills and setting the monthly budget in your family?

1. Self   2. Spouse   3. Parents   4. Other

C19. Who has primary responsibility for contact with government agencies, schools, medical practioners, etc. in your family?

1. Self
2. Spouse
3. Both Spouse & Self
4. Parents
5. School age child
6. Other______________________________

C20. Do you drive your own or someone else's automobile regularly to work?

1. Yes   2. No

C21. Are there certain jobs that you believe you could perform in agriculture but don't because those jobs are given only to men?

1. Yes   2. No

C22. If "yes", what are these jobs? ______________________

____

____

C23. Do you believe that men are treated preferentially in terms and conditions of work in agriculture, e.g., wages, benefits, longer periods of work, etc.

1. Yes   2. No

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C24. If "yes", to B23, please explain this preferential treatment.______________________________

____

____

____

C25. Would you work full-time, year-round in agriculture if work was available?

1. Yes 2. No 3. Probably

C26. Would you prefer to stay at home instead of working in farm work?

1. Yes 2. No

C27. Do you plan to be working in farm work three years from now?

1. Yes 2. No 3. Probably 4. Not sure

RECEIPT RECORD

FARMWORKER PROFILE PHASE II

CALIFORNIA STATE UNIVERSITY, FRESNO

The following amount has been received by the interviewee listed below as compensation for interview(s) conducted under the Farmworker Profile Phase II project.

DATE	NAME	AMOUNT RECEIVED
________	______________________	____________

SURVEY SITE(S): ____

INTERVIEWEE SIGNATURE

INTERVIEWER SIGNATURE
CALIFORNIA STATE UNIV. FRESNO
CENTER FOR AGRICULTURAL BUSINESS